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NPN

National Petroleum News

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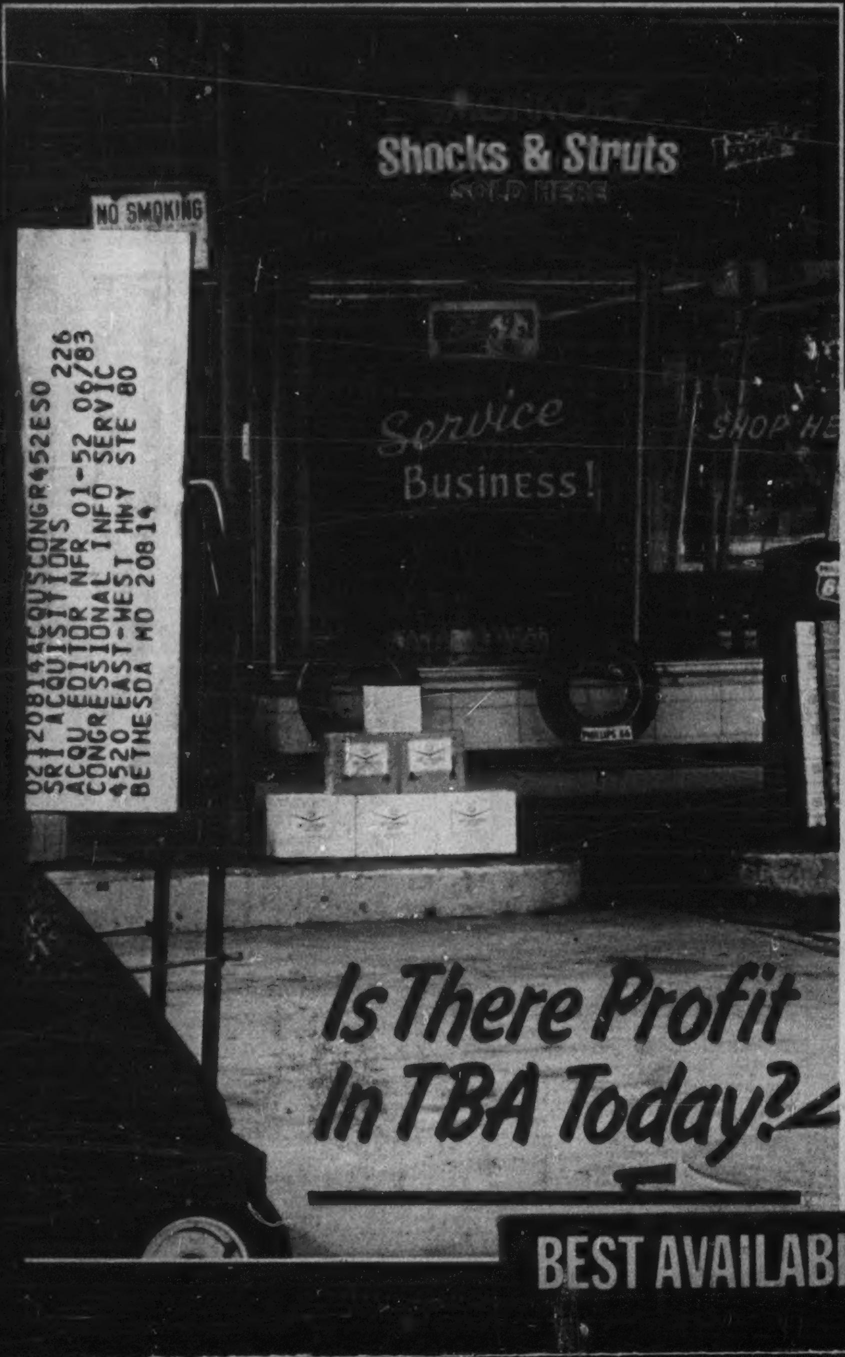
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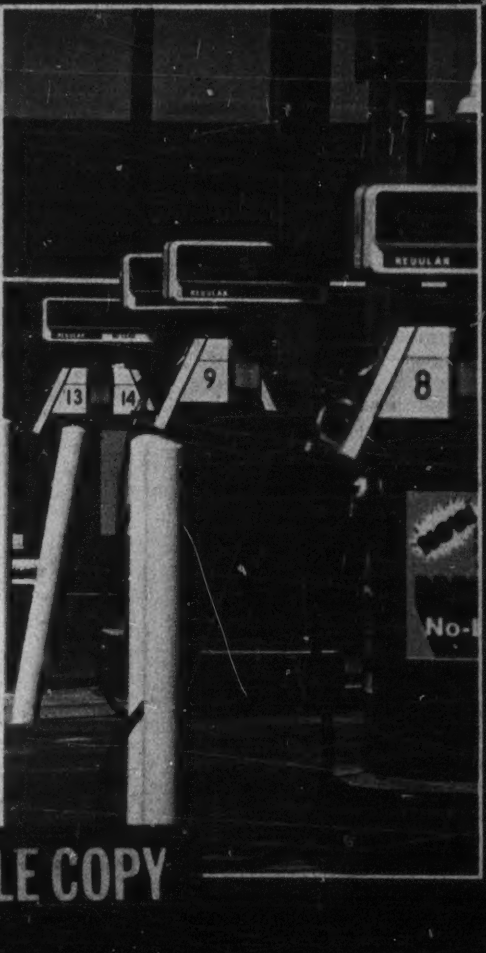
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Is There Profit In TBA Today?

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NATIONAL PETROLEUM NEWS

NOVEMBER 1982 VOL. 74 NO. 11

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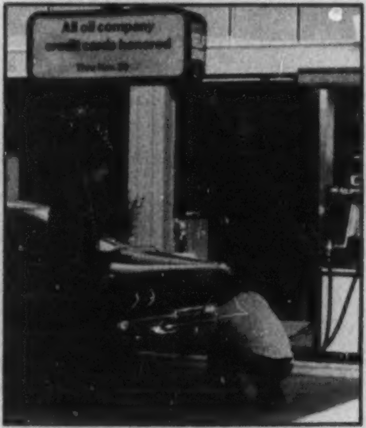
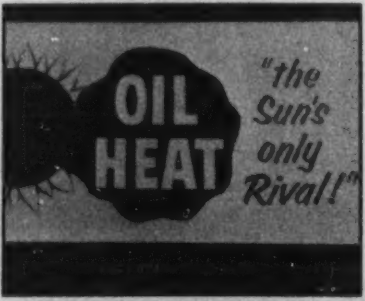
Any oil marketer gyrating in today's business climate knows he has to diversify his sources of revenue. Jobbers recently have explored convenience stores, real estate, insurance brokerages and more. Of all things, some jobbers are rethinking a known quantity . . . TBA. Page 42.

Cover photos by Thomas Olson.



A battle royal over the credit card issue—a slugfest that could affect all gasoline marketers—may be touched off by Shell Oil's recent decision to continue a free card program. Other companies may be forced to rethink their solutions. Page 27.



The nation's gas and electric utilities, with perhaps more abundant and cheaper energy supplies than ever, are promising a bolder assault on fuel oil's share of the space heating market. And, more than ever, oil marketers need a solid promotion program. Page 52.

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• TRENDS

The competitive price allowance (CPA)—that costly monster of the past which supposedly died with the oil embargo of the early 1970s—reportedly is playing a large role in helping Arco (Atlantic Richfield) continue its impressive gallonage gains with its low-price, no-credit-card marketing policy [NPN—Sept.'82, p63].

This is especially true on the West Coast, say marketers in that region, as they brace for an anticipated slowdown between Arco and Shell [see page 27].

Sources who have been observing dealer tankwagon (DTW) pricing trends since Arco dropped its card last April say they believe the company has switched from a strategy of trying to keep its DTW postings below competition to one of simply giving its dealers CPAs and rent rebates.

It is noted that in May, right after Arco's move, it was posting a DTW price of 92.2¢ for leaded regular in the region. This was 3.3¢ below its nearest competitor at the time, Exxon, and 3.8¢ below Shell.

By Sept. 24, however, Arco was posting 99.8¢ as its official DTW price in California. Exxon, by then, was actually 2.3¢ below Arco. Shell was posting $1.010 or 1.2¢ above Arco.

Some observers say they are convinced that Arco is still keeping its company-supplied dealers at least 3¢ gal. below other major competitors, however, through CPAs and rent allowances or rebates. They believe there are instances where Arco raises or lowers its CPAs to correspond with increases or decreases in its DTW postings.

One source believes Arco tries to provide a 5¢ or 6¢ gal. margin for its dealers. If market conditions won't allow this much, in go the CPAs and rent allowances. He estimates the total allowance often ranges from 5.3¢ to 10¢ gal.

The same source says it is his understanding that an Arco sales representative will survey competition around one of the company's stations, choosing a major with a credit card to "key" on. He then encourages the dealer to drop his price below this key, while guaranteeing a 5¢ to 6¢ margin.

This policy, competitive sources believe, is in effect in regions other than the West Coast as well. One unconfirmed report was out recently of Arco dealers in the Chicago area selling product in truckload quantities to other dealers. It was claimed they were able to do this because of a 6.8¢-gal. CPA.

Arco officials haven't denied that CPAs play a part in their pricing strategy although George Babikian, senior marketing vice president, has declined to reveal specific details.

Whatever Arco's specific pricing strategy, it seems to have little trouble in getting its dealers to price at what it considers competitive levels. In early September, according to one analysis, more than 83% of Arco dealers in the Los Angeles area were retailing leaded regular at prices below their DTW postings. The same study showed 68.1% retailing unleaded regular below DTW.

Meanwhile, tax figures from various states confirm the whopping overall sales increases Arco reported earlier. The company had said that through July, its total sales were up 15% from a year earlier and its individual lessee stations were showing an average 50% gain.

According to state tax figures, Arco sales increased as much as 81% in Massachusetts from June 1981 to June 1982. They reportedly were up 72% in New Jersey; 69% in Maryland; 53% in California; 46% in Oregon; 44% in Washington state; 39% in Nevada, and 27% in Delaware.

* * * * *

Arco jobbers who feel they've been wronged by the company's apparent favoritism toward its dealers may have a national precedent working in their favor. A lawsuit filed by Arco jobbers under California law, which was successful in the first round and was being appealed by Arco [see page 10], has national implications, say the jobbers' attorneys.

Arco's recent changes in jobber financial terms were enjoined by a California Superior Court judge on the issue of good-cause termination of a franchise, according to lawyers in the case—a notion that extends to the Petroleum Marketing Practices Act (PMPA). In ruling that Arco's shift in marketing practices was intended to drive jobbers out of business, the judge in effect concluded that the actions result in illegal termination of the franchise. This key principle would extend the precedent to other states vis-à-vis PMPA.

The company's new financial terms to jobbers and other changes in the Arco distribution agreement were breaches of "good faith and fair dealing" and were "unfair business practices" under the law, according to David Laufer, lead attorney for the California Arco jobbers. Adds Kenneth P. Roberts, Laufer's associate: "The ruling that in fact Arco is trying to put these people out of business will have nationwide impact."

—Marvin Reid and Mark Emond

• MARKETPLACE AT A GLANCE

AVERAGE GASOLINE PRICES IN THE U.S. (¢ per gal.)

AUGUST	Gasoline (All types)	Leaded Regular	Unleaded Regular	Leaded Premium
U.S. City Avg.	$1.310	$1.254	$1.323	$1.458
Regions:				
Northeast	1.308	1.251	1.311	NA
North Central	1.308	1.264	1.331	1.368
South	1.285	1.226	1.297	NA
West	1.349	1.280	1.362	1.469

Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

STOCKS (Add 000 bbl.)

	10/1/82	10/2/81
Gasoline (total)	236,971	239,149
Gasoline (unleaded*)	98,912	93,084
Kerosine **	44,309	50,019
Distillates	163,243	210,587
Residual	58,995	73,331

**Included in gasoline total.*

***Includes jet fuel.*

Source: American Petroleum Institute.

No Law Against Jobbers Getting a Better Price

Does an integrated oil company have an obligation to commission dealers that bars it from giving a better deal to a jobber? The U.S. Eighth Circuit Court of Appeals says no, at least not under federal law or Missouri state law.

The opinion came in a case involving several Missouri commission dealers franchised by Texas-based Champlin Petroleum Co., who sued the company for breach of fiduciary obligations when Champlin began supplying Empire Oil Co., a Missouri jobber, at a contract price below that charged to the dealers.

The dealers had argued that Champlin was obligated to give them its best possible price for gasoline, but the appeals court said the franchise agreement between the dealers and Champlin did not establish that obligation and "there is no language [in a state or federal] statute which operates to make a franchise relationship a fiduciary one."

The appeals court ruling overturned the verdict of a jury which had decided the case in the dealers' favor. The jury verdict would have awarded the dealers a total of $281,000 *(82-1002, CA 8,8/6/82).*

NPRA Report: Lube Sales Drop in 1981

U.S. sales of lubricating oils and greases declined 2.8% in 1981, according to the National Petroleum Refiners Assn.'s (NPRA) fifth annual survey.

The 1981 and 1980 totals were 2,223-million gal. vs. 2,286-million gal.

Automotive lubes took the worst beating. At 1,224-million gal. in 1981, sales were 3.2% below the preceding year's total of 1,265-million gal.

Engine oils were off only slightly while automatic transmission fluids skidded 3% to 125.7-million gal. Engine oils represented the lion's share of the total—974.4-million gal.

Sales of industrial lubes amounted to 937.2-million gal. in 1981 vs. 958.8-million gal. in 1980, a decline of 2.8%.

In the by-products area, the NPRA survey showed that total sales of aromatic oils were up 3% to 107.7-million gal., while those of waxes were down 5% to 205-million gal.

Winter Octanes Show Little Change

Gasoline octane numbers showed relatively no change in the winter of 1981-82 compared to the same periods a year ago and the summer of 1981, according to the Department of Energy's Technology Center in Bartlesville, Okla.

The latest semi-annual report, published in July but not distributed until September, dropped "premium" as a grade indicator in the leaded category and substituted instead two separate classifications: above 93.0 octane and below 93.0 octane.

Highlights of the report are in the table below.

	Unleaded (*)		Leaded (*)	
	Below 90.0	Above 90.0	Below 93.0	Above 93.0
Winter '81-'82	87.4	91.7	88.9	93.0(a)
Summer '81	87.4	91.3	89.0	NA
Winter '80-'81	87.6	91.4	89.1	93.3
Summer '80	87.8	91.6	88.9	92.8(b)

(*) All numbers are R + M ÷ 2;
(a) Data for one sample; (b) As reported by summery even though the number is below 93.0.

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Is There Profit In TBA Today?

By Thomas Olson
With Staff Reports

Any oil marketer gyrating in today's business climate knows he has to diversify his sources of revenue. Jobbers recently have explored convenience stores, real estate, insurance brokerages and more. Of all things, some jobbers even are rethinking a known quantity . . . TBA.

For all its risks and complexities, TBA (tires, batteries and accessories) marketing represents "a natural progression" for the jobber in need of extra money, say a variety of marketers around the country. Last year, the entire aftermarket produced some $54-billion in parts and service, according to a study by Hunter Publishing Co., parent company of *National Petroleum News*. And, this year, other reliable sources estimate the market will reach $60-billion.

Many oil jobbers, especially large ones who have geared their operations to high-volume gasoline sales, express little or no interest in TBA today. These marketers believe they can enjoy a better return on investment with fewer headaches by diversifying into such areas as convenience stores.

But things like convenience stores aren't all that easy to operate, others say, and they prefer to stick with something that traditionally has been associated with gasoline marketing.

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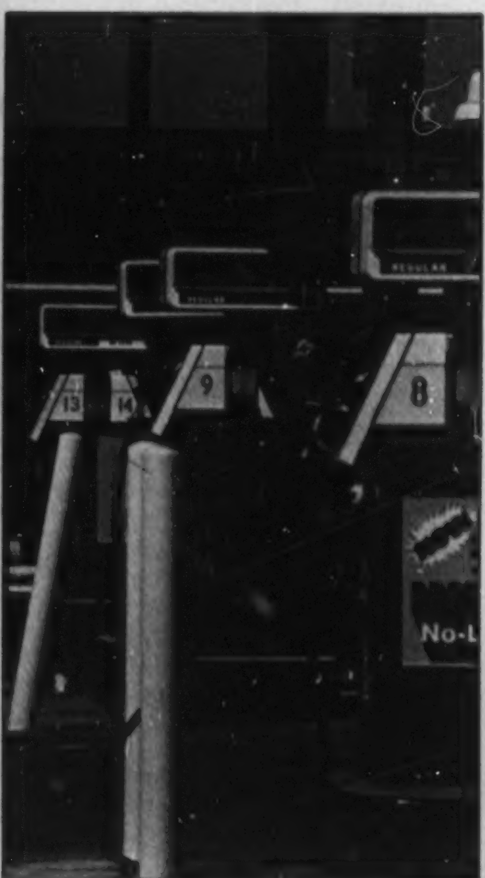

"TBA is like a marriage," says Don Hall, manager special products for Cities Service, and former chairman of the International Oil Industry TBA Group. "You will get out of it what you put into it."

"I see many large jobberships treating TBA as 'the little bastard on the side,'" says John Prentice, TBA manager for Phillips Petroleum. "But if he chooses to get into something like C-stores, he'd better know what he's doing."

During better times for the petroleum industry, in the 1960s, the Ethyl Corp. conducted surveys which found that each car driving across a station's driveway required an average $18 in parts and service. One state oil marketer association exec estimates that today, the figure must be $80 or more.

"There is a great potential for TBA sales, but it may not be actual demand," says an Amoco and private branded jobber in Michigan. "It's really up to the jobbers and dealers to push TBA on the driveways. They have to advertise things like free safety inspections and offer things like wiper blades to generate the business."

There is somewhat of a resurgence in TBA marketing after the self-serve craze that swept the country in the 1970s, some marketers say. Where so many full-service stations closed or converted to self-serve, there is something of a void today for the jobber who is savvy enough to stave off mass merchandisers and repair specialists. But the oil/TBA jobber has a few things to consider:

- Yesteryear's 25% to 35% gross profit margin in TBA has shrunk to more like 20% to 25%, and in some cases lower.
- The TBA/aftermarket is a highly fragmented business. Specialists and volume distributors—especially of tires and batteries—have made great strides in market share during the past two decades.
- TBA products move not only on price, but also on quality and service, successful jobbers in the aftermarket emphasize. The old adage, "quality sells," rings true for TBA.
- For everything in TBA, the name of the game is turns, turns, turns. An oil jobber does not think of his gasoline inventory in terms of turnover. (It likely turns more than 100 times a year.) With TBA, however, turnover is one of the prime concerns. If a marketer is not turning his inventory four times a year, he is not liquid enough.
- The independent marketer who has beaten major companies with his gasoline prices on the street can and should apply his "local advantage" to his TBA marketing practices.
- The oil jobber active in TBA as a means of ancillary income has to be willing and able to sell to anything that moves. Volume in this business can be very rewarding.

Filling Market Voids

"As the big oil companies slow down on TBA, we're picking up that stuff," says Harold Jones, president of C.N. Brown Oil Co., South Paris, Maine. Aside from growing ninefold in his motor fuels business to an annual 84-million gal., Jones also has brought up his TBA business from $67,000 in sales in 1972 to an estimated $2.5-million in sales this year.

Jones says one of his secrets is capturing the business of lots of small outlets. "There are a lot of 'Mom and Pop' stations out there and we keep picking them up and taking care of them."

C.N. Brown Oil serves a total of 198 stations of all kinds and manages to turn over some $500,000 in TBA inventory about five times a year—a good rate for jobbers large or small.

Jobbers can go to school on what Citgo began doing in the early 1970s. To the rancor of some of its dealers (and to the envy of some of its major competitors), Citgo began soliciting and selling its TBA and motor oil products directly to the mass merchandisers.

Today, Citgo sells national brands—Firestone and Goodyear tires, AC Delco batteries and Monroe shock absorbers—to jobbers, dealers, auto parts stores, mass merchants and even other branded distributors, says TBA manager Hall. Since Citgo broke the ice publicly with its varied distribution channel, several other major companies have quietly followed suit.

The oil/TBA jobber often does not enjoy the 30% gross margin for his TBA that he once did. But when was the last time an oil jobber made even 15% on his gasoline?

And, future prospects for gasoline margins remain dim by comparison. The gasoline market's annual demand growth is projected at little more than 1.5%, says Amoco Oil. However, TBA sales are expected to grow at an annual 3.6% rate over the next five years, according to figures supplied by the Automotive Market Research Council.

A wide-ranging oil/TBA jobber study published last April by Hunter Publishing shows that six out of 10 marketers surveyed handled one or more TBA lines. One-fifth of that sub-group carried roughly a dozen lines.

'T' of TBA Most Risky

The tire market has changed significantly in recent years—and not simply because more tiny tires are rolling down the street.

Tires can be the most volatile class of TBA. At one time, its distributors enjoyed outlandish margins. But the steady market share gains of tire dealers and the rise of downsized and imported cars have put some pressure on tire marketers to perform.

Some of the old, lucrative ways of tire marketing were nothing short of seductive. A former Exxon sales rep describes how in the late 1960s and early 1970s the company's first-line Atlas brand tire produced tremendous profits every step along the channel. Exxon purchased the tires from the rubber company at about $8 per tire and resold them to dealers for $22, he says. Then, Exxon recommended that dealers retail them at $32.95.

"Exxon was too greedy," argues the former sales rep. "They jacked up the prices of other TBA items in a similar fashion and just opened the gates wide for the discount houses and such to take the business away from them.

"But in those days, everybody in oil marketing thought 'fat margins' on TBA. And, they killed off their dealer organizations by the way they priced TBA to them."

In part due to such methods, the service station share of the tire market has shrunk steadily about 1% a year in recent years. According to *Modern Tire Dealer*, the service station share in 1981 declined to 11%. Tire dealers, on the other hand, have boosted their market share from 45% in 1979 to 51% last year. The main reason: Perhaps more than any other business, tires are a volume business.

The Pacesetters

Direct Sales Tire Co., Denver, is a widely known distributor in markets from the Rockies to the Texas panhandle. It recorded $26-million in tire sales last year and a 15% to 16% increase in unit sales is anticipated this year, says vice president Dennis Deckard. Marketing through 43 tire stores in six states, Direct Sales Tire promotes major brand tires at 20% to 25% discounts.

Capitol Group, a California-based tire distributor in five Mid-Continent states and Colorado, boasts more than 70 locations. It has tied in with MasterCard/VISA cardholder mailing material that promotes savings of $10 to $30 per tire.

Chem Oil & Tire Co., Las Vegas, is about as diversified as a TBA/oil jobbership can be. The multi-branded company handles "many millions of dollars" of mostly wholesale business in TBA, chemicals, petroleum and equipment, says president Cort Bishop Jr. His company used to sell more tires than the $100,000 worth he currently sells. But direct competition from rubber companies has hurt.

"The competition has gotten bigger, and we've gotten smaller. Goodyear and [B.F.] Goodrich are bidding the big stuff direct, and making maybe a 5% commission on it," he says. "For example, a prime contractor for the government at the Nevada Test Site just had a $600,000 bid for tires and tubes. I got $70,000 of it. I was competing against Goodyear and

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B.F. Goodrich direct," he says.

As if direct manufacturer competition on tire sales isn't enough, one rubber company has even gotten into the full-blown aftermarket service business.

Firestone Tire & Rubber last year unleashed a showroom-to-scrapyard car care program. It bills its MasterCare program as "the largest single investment ever made in the United States for an automotive aftermarket program." One Wall Street market analyst says Firestone anticipates $1.5-billion in sales by 1987.

Mass Merchants Destructible

The battery market also is prone to specialization. Here, the mass merchandiser's share of market has held steady at around one-third the industry's level of total sales. But the so-called battery specialist is the one continuing to grab market share.

According to data from Battery Council International, gasoline and oil marketers' share of the battery market has slipped from 8.7% in 1978 to 5.9% last year. The mass merchandiser—department and discount stores, plus auto chains—is off from 34.9% to 33.4% last year. The battery specialist, however, has grown from just 18% in 1978 to 27% last year.

Mass merchandisers themselves have expanded into the full-service business. K-Mart, for instance, launched its K Care program in 1981 with some 1,700 locations. Although the nation's second largest retailer has cut back more than 300 of those auto service centers since then, each one still does brake work and tuneups. And, oil/TBA jobbers feel a constant competitive pressure on prices from such mass merchants—appealing as they do to a consumer who is drummed by the recession into price-consciousness.

One central California jobber fingers mass merchants as the culprits who drove him out of TBA. They also drove Mobil out of TBA and seduced California independent Beacon Oil into the arms of the big tire and chain stores and away from jobbers, he says.

Lee Atwater Jr., a Stockton-based dual-branded Mobil and Beacon jobber, says he had an almost captive TBA market running from Fresno to Sacramento—some 150 miles' distance—and he still couldn't make a go of it in TBA.

"With Mobil, it was the competitive pressures from the mass merchandisers," says Atwater. "Through the San Joaquin Valley, every town has two or three of them. In Stockton, we have five petroleum [sub] jobbers, and I don't think any one of them carries TBA."

Oil Jobbers Have a Market

Most TBA executives in major oil companies contacted by *NPN*, however, say that on balance, jobbers' and mass merchants' product lines don't overlap severely enough to spell the demise of the oil jobbers' TBA business.

Chevron markets through company warehouses on the West Coast, but markets east of the Rockies through its TBA jobbers and some oil/TBA jobbers. TBA supervisor Mike Mavrakis says any failure of the oil/TBA jobber at the feet of the mass merchandiser is much exaggerated.

"If you say the mass merchandiser is pushing the jobber out, I don't know how the hell they're doing that. I think you're looking at two different classes of trade," says Mavrakis. "Normally, that jobber is serving retail outlets. He could also be going after some of the commercial trade. But I don't think those customers are buying from the mass merchandiser," he says.

The factor most often cited by industry experts as the reason for optimism in the TBA business is that Americans are holding onto their cars longer.

In 1972, the average car on the road was 5.5 years old. Today, the average car is seven years old, according to a nationwide poll by Opinion Research Corp. That very fact has helped sustain steady TBA market

Service Station TBA Profile

Competitive as ever, the car repair business represents an enduring enterprise for the outlet with the right service mix. And, according to a recently released study, service stations are encountering more work per outlet.

Repair and service dollar volume at the average full-service station reached a new high in 1981, as the number of these outlets fell to a new low. Dollar volumes on sales of parts, accessories and labor at retail were $108,700 in 1981, up 33% from $81,700 in 1978, the study reveals.

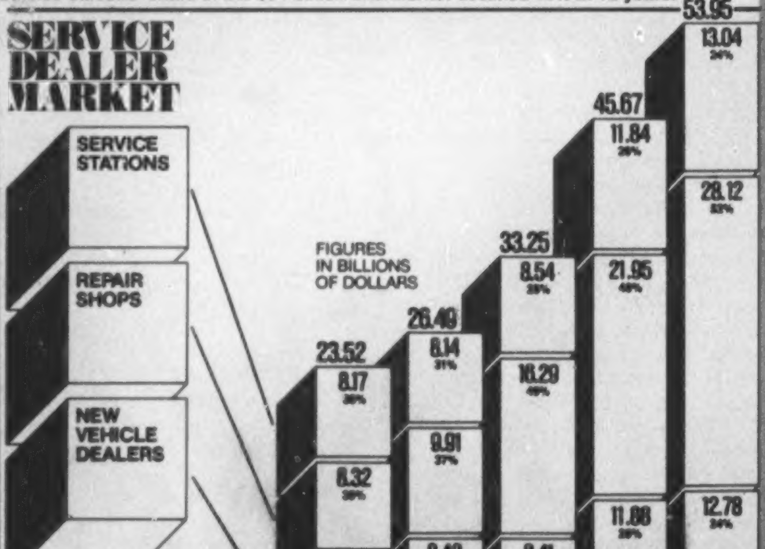
According to Hunter Publishing Co.'s triennial *Service Job Analysis (SJA)*, full-service outlets were projected to number 120,000 in 1981. That level is down from a total 145,000 in 1978, the last *SJA* survey period. The study defines full-service stations as having service bays and at least one full-time mechanic per station.

The 1981 *SJA*, recently compiled and released, is the sixth in a series of comprehensive analyses of the traditional automotive aftermarket. It was produced by Hunter Publishing with the aid of an independent market research firm (Great Lakes Marketing Associates). The study also was based upon Hunter's "micromarket" research panel—a national aftermarket panel comprising nearly 5,000 representative members of the traditional automotive service industry.

Besides the estimated 120,000 service stations, data is presented for 136,000 repair shops, 28,000 car/truck service departments and 39,000 fleet repair locations. According to the 1981 and prior *SJA* studies, service station repair receipts have jumped an average 110% since 1975, and 159% since pre-embargo 1972. Among findings of the latest study:

- The total traditional dealer service market in 1981 (including service stations, new car dealers, independent repair shops, and self-service fleets) accounted

Service stations' share of the $54-billion aftermarket declined 11% in 12 years.



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growth in the face of sluggish oil product consumption. And, older cars in need of more service is a phenomenon that has not missed the attention of major oil marketers.

Oil Company Programs

Shell Oil may have sensed some sort of repair business renaissance when it launched in 1977 its Auto Care Center program. Currently, the company has 1,950 centers, comprising about one-third of its branded service station population in the country.

Primarily a "skimmed" product line program, Auto Care has evolved from a system of Shell warehouses to a mostly direct-ship program, says Bob Myrick, manager packaged products, retail gasoline center. A very small percentage of Shell-branded tires, batteries and filters—no other accessories—do move through a handful of jobbers in Texas and elsewhere, a Shell spokesman says.

The Standard Oil companies' Atlas program is a full-line program for their dealers and jobbers. Atlas-brand products include tires, batteries, accessories, some remanufactured parts, and even tuneup equipment. Amoco, Chevron, Exxon and Sohio retailers are supplied product from Atlas warehouses. The program generally is considered "in a class by itself."

In addition to its Atlas program, Amoco has 150 franchised Certicare stations in five metropolitan areas. Although the number of stations has not grown as rapidly as some sources had expected, stations reportedly are doing well with their package of specialized services and warranties.

Likewise, Union Oil intends to recapture its share of the automotive aftermarket business with its Protech program. In places around San Diego, Union's plan features stations with up to six bays and mechanics certified in four services. Union also guarantees the work of its franchise dealers.

In the Miami area, Gulf's 35 Car Care Centers are running head to head with about two dozen Amoco Certicare stations. Gulf's dealer program, however, was to expand last month into Orlando, and will move into the three Mid-Atlantic states next year, says Bob Overton, general manager retail.

"There is a definite need for these services with new car sales down and people holding onto their cars longer," says Overton. "Why allow that business to go to the car dealers, when our dealers are certified to service those autos?"

Why, indeed, agrees Phillips Petroleum. When Conoco abandoned its Dynalife brand TBA products last May, Phillips stepped in to serve jobbers and direct-supplied dealers alike with the line of batteries, filters, shocks, additives, belts and hoses. Addition of the old Conoco line is expected to help boost Phillips' TBA revenues this year some 22% over last year's dollar volume, says TBA manager Prentice.

"The difference between us and Conoco is that they didn't have a central order system," he says. That, however, was just one reason Conoco got out.

Conoco's TBA Demise

Three major oil marketers in just the past two years have dropped their TBA programs. First Getty, then Mobil, in 1981. Last May, it was Conoco. And, just last month, Champlin Petroleum announced that it, too, would abandon TBA at the end of the year. All took the plunge for similar reasons.

"Originally, we felt TBA was a way to increase jobbers' and dealers' ancillary income, because they can't live by gasoline alone," explains Perry McCahill, Conoco's general manager of division operations for petroleum marketing.

But at the time Conoco got out of that business, it was running only 22% of its TBA volume through jobbers. Meanwhile, "a lot of working capital was being tied up," he says, and the company found itself supplying high volumes to parts houses and warehouse jobbers for margins lower than what Conoco had grown accustomed to.

Another source inside Conoco puts it more bluntly:

"We got volume hungry, and we just didn't watch our expenses."

Some industry analysts have speculated that DuPont, Conoco's parent since the summer of 1981, simply lopped off a segment of its stepchild's business. It was not that simple, assures McCahill, adding that Conoco had fine-penciled its costs and shuffled its sales personnel for several years to ward off what eventually happened.

"The handwriting was on the wall before DuPont ever came in," he says. "We had been evaluating TBA every year. They didn't come in here and say, 'Get out of everything that isn't making a profit.' I know that for a fact because I made the recommendation for us to get out of TBA," he says.

Getty Refining & Marketing has had even longer to reflect on its decision to jump ship. In 1981, it was the first of the three refiners to get out. One Getty exec with more than 20 years of TBA experience with the company says Getty could not justify heavy TBA expenses any longer, and failed to effectively sell its products through channels other than its retail outlets.

"We only had a limited number of dealers, and a limited number of turns per year," he says. "If we could have had the economy of deliveries in the major cities, we could have cut it."

Both Getty and Mobil cite a common major factor in giving up the TBA business: They were getting beat on the local level. Branded dealers found channels that could respond faster and cheaper than could their major oil company TBA supplier.

"We lost to the wagon jobber," says one Getty exec. "The dealer could just pick up the phone and the jobber would have a route that could give better service than we ever could."

The same local advantage applies to the oil jobber working TBA. He might do well to consider that fact.

for $54-billion in revenues, up from $23.5-billion in 1969.

- Total repair and service volume for service stations in 1981 exceeded $13-billion, the highest ever, according to *SJA* figures. Service station market share has stabilized at about a quarter (24%) of the total aftermarket business volume (down from a 35% share in 1969). Repair shops accounted for 52% of the business last year, and new car dealers, 24%.
- Of the more than 250 specific service jobs performed by repair outlets and analyzed in the *SJA*, service stations remain the aftermarket leader, or a close second, in such service categories as lube work (53.4% of all such jobs performed by traditional outlets); fuel filter replacements (32.2%); carburetor installments (new, 38.2%; rebuilt, 48.7%); batteries sold (49.8%); alternator installments (new, 41.1%; rebuilt, 42.6%); exhaust system replacements (42.6%), PVC valve installments (37.7%), and shock absorber replacements (new-front, 39.8%; new-rear, 43.3%).

But there are soft spots, too. Total lube jobs are down somewhat from previous *SJA* studies, as are engine tuneups. Undoubtedly, the decline in lube jobs reflects the automakers' extended service intervals for their new cars. The impact of electronic ignitions on the tuneup business is having a substantial influence as well. In recent years, business in such bread-and-butter categories as muffler replacements has been lost to the non-traditional discount and specialty outlets.

Survey results also seem to imply that the self-service gasoline trend has affected the volume of service and repair activity, which shows in motorists' neglect of routine car maintenance.

All in all, however, the study indicates unquestionably that automotive service and repair work for most full-service dealers offered a refreshing contrast to the gasoline market doldrums which emerged in 1981. The message from the 1981 *SJA*: fewer stations, more business per station and, by implication, better dealer management and better mechanics to meet the higher challenge.

—Don Smith

December, 1982

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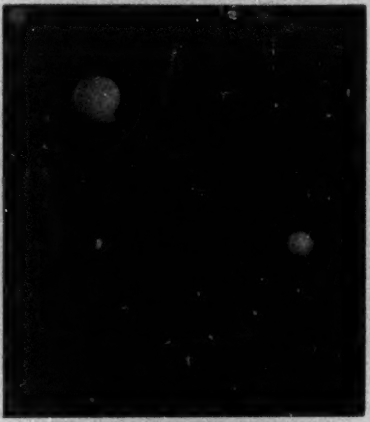

Just about all of the white-knuckle things that happened to oil marketers in 1982, particularly to jobbers, are in for repeat performances in 1983—with the additional proviso that the going will be even tougher in the first half of the new year. Page 42.

Cover photo by Thomas Olson.

Arco is coming off its best quarterly earnings performance in the marketing unit's short history. September volume at Arco lessee-dealer stations was up 70% over 1981—and some 25% of that cash-only business came from drivers who once patronized the independents, according to outside research. Apparently, cash gains and cost savings since dropping its credit card far outweigh losses. Page 27.

Banking, whether from separate freestanding kiosks or in-store automatic teller machines, is gaining ground at convenience store/gasoline locations. The innovation is seen as generating greater customer traffic, plus a low-investment, high-return profit center for expensive retail properties. Page 48.

• TRENDS

The gasoline credit card battle means different things to different people, and to many independent gasoline marketers, it is a wolf in sheep's clothing. Many independents fear drastic consequences may arise from a trend that seems so innocuous as cost-cutting [see pages 10, 20 and 27].

Since Texaco started charging marketers a credit card processing fee in September 1981, almost all major oil companies and a few large independents have taken steps to get out from under consumer credit costs. Most independents don't quarrel with that.

But Arco's version was to jettison credit cards and cut wholesale prices an amount claimed to be equivalent to their credit costs, in effect pitting the major against independents who have operated without credit cards for a long time.

Jay Colin, executive vice president of State Oil, a relatively small private brander based in Los Angeles, says, "The last thing in the world I would want to be right now is a large independent. For the first time ever, they are forced to price dollar for dollar and penny for penny against a major."

Hand-in-hand with the surcharge movement, so-called "discount for cash" programs, which had trickled into the market even before Arco's radical move, came cascading in. Soon, practically everybody who had credit cards was charging marketers a processing fee, cutting wholesale prices and promoting retail discounts for cash.

" 'Discount for cash' puts further pressure on the independents because it brings other majors down close to Arco," Colin observes.

Still another shoe fell. Shell announced it would accept all credit cards and charge no more for credit purchases. Sun did the same.

If the plethora of major-brand discounting didn't make independents uncomfortable, Shell's "no charge for credit" program did. Independents could visualize Shell cutting wholesale prices to match Arco, and Arco cutting wholesale prices further to equalize for the credit cards Arco didn't have, and Shell matching Arco, and so on, ad nauseam if not ad infinitum.

The whole process associated with the credit card battle has pushed gasoline prices down abnormally, prompting the head of an East Coast independent to observe, "When you see gasoline selling as much as 10¢ or 12¢ below No. 2 fuel [on the spot market], you know something is out of kilter."

To many independents, the low wholesale gasoline prices seemed out of step with firm crude oil prices. The Society of Independent Gasoline Marketers of America (SIGMA) charges that "revenues from crude oil production and other upstream operations" are being used "to subsidize refining and marketing."

SIGMA's executive director Ken Doyle says the association "is not going to sit around and allow the majors to use their upstream operations to put us out of business downstream."

SIGMA and others have charged that Arco is using a price advantage it enjoys on Alaskan crude oil to be more competitive downstream. In the competitive gasoline market, one company's prices are often matched by others'.

Jack Blum, head of a Washington, D.C., law firm representing Independent Gasoline Marketers Council (IGMC), estimates Arco's advantage to be $2 to $3 bbl., conservatively $2 bbl. (5¢ gal.). His group and others are zeroing in on this.

"The Alaskan advantage isn't going to be with us very long," Blum says. "The rest of us are going to see to it that if Arco is going to beat the independents' brains out, they're going to do it with their own money."

SIGMA's Doyle adds, "If subsidization continues, they [major integrated oil companies] are going to end up facing a united coalition of everybody except major refiners, and the coalition will be looking for divorcement or divestiture or some sort of remedial legislation to keep them from doing it."

Independents see other ramifications. One is that majors are sowing seeds that will change their own marketing structures drastically. For example, independents may accelerate conversion of some stations to major brands, putting them in competition with less-price-conscious lessee dealers.

Paul Erdos, executive secretary of Serve Yourself and Multiple Pump Assn. (SYMPA), a California independent group, predicts that within three years there will be one-third fewer major lessee dealers than now.

"The volumes will remain with the supplying companies, but under different circumstances," he says. "Independents who brand up with majors are masters of volume building under the most hostile conditions."

—Mark Emond

• MARKETPLACE AT A GLANCE

AVERAGE GASOLINE PRICES IN THE U.S. (¢ per gal.)

SEPTEMBER	Gasoline (All types)	Leaded Regular	Unleaded Regular	Leaded Premium
U.S. City Avg.	$1.295	$1.236	$1.308	$1.441
Regions:				
Northeast	1.299	1.242	1.303	NA
North Central	1.291	1.247	1.313	NA
South	1.269	1.209	1.282	NA
West	1.330	1.256	1.344	1.454

Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

STOCKS (Add 000 bbl.)

	10/29/82	10/30/81
Gasoline (total)	231,934	236,480
Gasoline (unleaded*)	96,509	91,743
Kerosine **	44,890	44,666
Distillates	168,901	200,785
Residual	60,947	75,349

**Included in gasoline total.*
***Includes jet fuel.*
Source: American Petroleum Institute.

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earnings level in any single quarter in the company's history.

The $277-million in reported income—a 19.5% rise over third-quarter 1981—also betters the $273-million earned over the entire first half of 1982.

For the first nine months, Arco earnings of $550-million represented a nearly 45.3% increase over the same period in 1981, the company reports. The refining and marketing unit, in fact, helped parent Atlantic Richfield post the only black ink among the nation's top eight oil companies for nine-month earnings. Atlantic Richfield reported a 3% increase in net income for the nine-month period [see page 30].

"These figures," said president and CEO William Kieschnick, "reflect both improved product margins and the considerable success that Atlantic Richfield has achieved in the retail gasoline marketplace since relinquishing its costly gasoline credit card operation last April 15, and passing on the savings to its dealers in the form of lower prices."

The "lower prices" have raised charges of predatory pricing and market-wrecking from other marketers. NPD study figures show that Arco branded pump prices for all grades and services since April have consistently been 5% to 6% below the majors.

Marketers hoping for Arco's price pressure to ease may have found some solace in a 2¢-gal. wholesale price increase that Arco leveled nationwide in October. Relief will come only on a sporadic basis, however, as competitive price allowances (CPAs) for selected Arco dealers may mitigate the 2¢-gal. hike in many areas.

Arco rocked the market last April by slashing its dealer tankwagon prices 2.8¢ gal. and taking the posture of a major that would call the hand of any independent.

'One Goal: Sell Gasoline'

In putting through the price increase, had Arco reached a market share goal that enabled it to stop "leaving money on the table" from lowballing prices?

"We don't have a market share goal," responds Scott Stanworth, manager of retail sales. "Our objective is to sell what gasoline we have available, and sell it through whatever class of trade will provide as much profit as possible."

The NPD study also notes that Arco prices have been 3% below the postings of independent marketers. Arco, however, has maintained steadfastly that it is not out to undercut the price-cutters.

"Our pricing has been geared to allow us to price with the most competitive element in the marketplace," says Stanworth. He adds that the company does not keep records comparing Arco's retail prices to other marketers' prices.

"We haven't led the marketplace in that sense," he says. "Rather, we have followed it."

A few West Coast independents, however, have been so angered by Arco's gallonage gains at their expense that they are considering a suit against the company, reports say. As of November, though, lawyers representing independents were hard-pressed to find firm legal grounds for a suit.

All marketers, not just independents, have felt the presence of Arco on their stomping grounds. About 60% of Arco's total volume last spring came from customers of competing majors and from those who already had been using cash at Arco's pumps.

Of the new customers who switched to Arco last April, most formerly were major brand buyers, according to NPD. (The market research firm did not report brand-switching behavior for individual companies, but did say that such brand switching to Arco was fairly evenly split among former customers of competing major companies.)

In the Northeast, major companies and independents each suffered about the same amount of brand-switching to the Arco-branded outlet. In some mid-continent states, however, 65% of the brand-switching to Arco involved majors' customers. (The other 35% come from motorists who once patronized independent marketers, says NPD.)

Brand-switching results, however, are only for the time period roughly a month before and a month after Arco dropped its card. It is not known what kind of brand loyalty Arco or the other marketers experienced in the months since then.

—Thomas Olson

1981 Credit Card Sales: Will They Ever Be the Same?

With the surcharge, free-card and no-card policies of a number of majors, the oil company credit card picture has changed vastly in the past year. But figures just compiled and released for 1981 credit card sales offer an appropriate benchmark for comparing results of these new company tactics.

As results become known, it may be that 1981 was the oil industry's banner year in the credit card sales department—with the various new policies tending to dampen the volume of card transactions.

In 1981, according to *The Nilson Report*, a private newsletter directed to top merchandising executives, Texaco still had more credit cards in use than any other oil company, but Exxon's plastic garnered the No. 1 spot in dollar volume of sales.

More than $26-billion in oil company credit card sales were reported by the top 22 issuers in 1981—with the number of cards outstanding totaling 107-million, 12-million less than in 1979, a shrinkage of 10.1% [see table on facing page for details].

The latest Nilson survey is the first issued in about two years, making 1979 the last previous year for which industry-wide statistics were recorded.

Taking note of the many changes which have occurred since last Jan. 1, including Arco's abandonment of its credit card, publisher Spencer Nilson acknowledges that the contemporary credit card situation is in such a state of flux that it is almost impossible to keep track.

Nilson doesn't foresee the day coming when all major oil companies will do as Arco did. Nor is he convinced that the discount-for-cash programs contrived by Exxon, Mobil, Amoco and others will last for long.

"Credit cards will always play a role in oil marketing," he says. "As for cash discounts, I don't know of any industry where they lasted forever. Supply-demand factors eventually even these things out."

Sales Up 23%

In addition to the $26-billion in sales on oil company cards, sales generated by bank cards and travel/entertainment cards such as American Express brought 1981's grand total of oil-channel credit card sales to $28.3-billion. The more or less comparable figure in 1979, according to Nilson's data, was $23-billion—revealing a 23% rise in card revenues for the two-year period.

Texaco, which reported a total of 17.7-million credit cards in use in 1979, had only 13-million active cards in 1981. A company spokesman explains that this apparently resulted from re-issuance of cards with two-year expiration dates and the weeding out of cardholders who had not used their accounts during that period.

Amoco, Exxon, Shell, Mobil and Gulf, respectively, were next in line in the first half dozen.

In dollar sales, however, Exxon topped them all with a volume of $3.5-billion.

Amoco was next, only a hoot and holler away. Others in the $1-billion-plus class were, in descending order, Shell, Texaco, Mobil, Chevron, Gulf, Union, Arco and Standard of Ohio.

For 1979 credit card data, see the *NPN Factbook*, 1982 edition, page 103.

22 Largest Oil Company Card Issuers—1981

Oil Companies	Total Cards (millions)	Total Accounts (millions)	Accounts Billed Monthly (millions)	Sales Volume ($millions)	Bank Card Sales Volume ($millions)	T&E Card Sales Volume ($millions)	Total Credit Sales ($millions)
	Oil Company Credit Cards						
Texaco	13.00	7.00	3.00	$ 2,600.00	—	—	$ 2,600.00
Amoco	12.50	6.90	3.60	3,300.00	—	$ 20.00	3,320.00
Exxon	11.90	6.60	3.60	3,500.00	—	—	3,500.00
Shell	11.50	6.00	3.50	2,700.00	$ 400.00	—	3,100.00
Mobil	11.30	5.80	3.00	2,500.00	—	—	2,500.00
Gulf	10.00	5.00	2.30	2,100.00	—	—	2,100.00
Chevron	8.00	4.30	2.60	2,400.00	400.00	—	2,800.00
Union	5.90	3.50	2.10	1,800.00	274.00	—	2,074.00
Arco	5.90	3.00	1.75	1,293.30	1.70*	—	1,295.00
Sunoco/DX	4.80	3.00	1.00	750.00	110.00	35.00	895.00
Phillips	3.70	2.20	.90	780.00	195.00	—	975.00
Sohio	2.10	1.20	.90	1,100.00	69.00	—	1,169.00
Citgo	1.60	1.00	.40	270.00	80.00	—	350.00
Conoco	1.30	1.00	.40	310.00	25.00	—	335.00
Marathon	.80	.50	.20	150.00	—	—	150.00
Diamond	.70	.50	.10	140.00	30.00	10.00	180.00
Fina	.60	.40	.20	162.00	—	—	162.00
Total	.50	.30	.20	215.00	145.00	—	360.00
Champlin	.40	.20	.07	67.00	20.00	—	87.00
Kerr-McGee	.40	.20	.08	79.00	18.00	—	97.00
Ashland	.20	.10	.06	57.00	60.00	—	117.00
Husky	.20	.10	.07	128.60	15.10	—	143.70
Totals	**107.30**	**58.80**	**30.03**	**$26,401.90**	**$1,842.80**	**$865.00**	**$28,309.70**

*Began honoring bank cards October 1981.
Source: The Nilson Report, November 1982.

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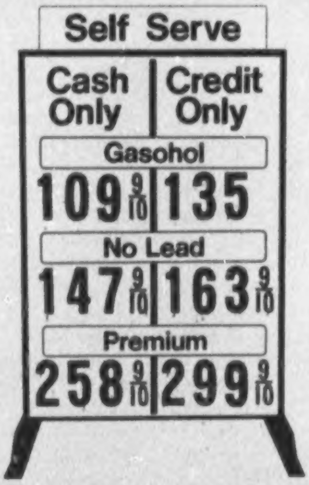

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Amoco Reconsidering the Card Fee Concept?

Bowing to heavy pressure from dealers nationwide, Amoco Oil Co. last month reduced its industry-high 4% credit card surcharge to 3%.

Ever since it announced its credit card fee and discount for cash, Amoco has maintained that the programs would make dealers more competitive in the marketplace. On the other hand, dealers have contended all along that the programs actually make them less competitive, pushing them deeper and deeper into the red.

All over the U.S. in recent months, Amoco dealers have staged a number of quiet rebellions. The restiveness, combined with competitive considerations about such programs as Shell's "free card" approach, may be leading Amoco to re-evaluate the surcharge concept.

In two Midwest cities, dealers rose up and threatened the company with lawsuits and job actions.

Saying that Amoco had been "deaf to their pleas" for changes in the credit card program, Madison, Wisc., Amoco dealers decided to get the company's attention by deliberately selling less product. So, they raised their pump prices and took down their price and discount-for-cash signs.

In addition, 30 of the dealers, believing a credit card surcharge is a violation of the Wisconsin Fair Dealership Law, stopped paying Amoco the required 4% fee. The law states that an oil company "shall provide a dealer at least 90 days' written notice of termination, cancellation, nonrenewal or substantial change in competitive circumstances."

The recalcitrant dealers said Amoco's credit card fee represented a "substantial change" in their competitive circumstances, and the company was therefore required to give them 90 days' notice, but did not.

In response, B. E. Stevens, Amoco's district manager in Milwaukee, sent a letter to every dealer who was withholding the credit card fee, threatening termination of their credit card contracts within 10 days. The letter stated that the company had, in fact, notified the dealers of the change in the credit card agreement (although he did not say when or how the notification was made).

A week later, with Amoco's termination deadline approaching, the fee-withholding dealers met and decided to pony up the money they owed. By then, however, they had found what they thought was an Amoco violation of their credit card contracts. (The dealers contended that the company violated a clause in the agreement which specifies there would be no charge to the dealers for the credit card program.)

Just before Amoco announced the fee reduction, a group of 50 Madison dealers told the company they were considering legal action over the alleged violations of both the credit card contract and the Fair Dealership Law.

While dealers were slugging it out with Amoco in Wisconsin, more than 75 angry Chicago-area Amoco dealers were making plans to draw Amoco's attention in their direction.

Led by Robert Jacobs and Stan Rodman of the Illinois Gasoline Dealers Assn. (IGDA), the dealers planned to:

—partially debrand;

—burden Amoco with extra paperwork and bookkeeping by submitting separate checks for credit fees and product;

—give credit card customers complaint/protest postcards addressed to Sam Van Sickle, Amoco's marketing vice president;

—stop buying from Amoco's "Atlas" TBA program; and,

—begin accepting alternative payment such as personal checks.

"They're hurting us, so let's hurt them," Jacobs said. "We want to communicate to them that dealers are having serious problems in the streets."

In addition to the IGDA efforts, a delegation from the 170-member Chicago Metropolitan Amoco Dealers Assn. (MADA) met with Robert Rausher, Midwest regional vice president, and six other Amoco executives "to find some way to work with the company to resolve the problems—our survival depends on it."

Although Amoco says the credit fee reduction stems from "a review of credit card use rates, lower interest rates and the introduction of competitive discount programs with lower fees," observers say dealer pressure and complaints certainly helped.

In the end, however, the 1% reduction was less a victory than it seemed: At the same time, Amoco also cut the dealer tankwagon and jobber discount rates that are part of the discount-for-cash and credit card packages. **—Tim Green**

Second-Half Recovery for Oil's Downstream Units

Lower crude oil costs, higher refined product sales and heavy drawdowns of relatively low-cost LIFO inventories brought a number of oil company refining and marketing divisions into the black in 1982's third quarter. Overall operations, however, produced flat to dismal results for many of the top oil companies [see table on page 32].

Of the big eight companies, only Atlantic Richfield—boosted by the best quarter in its refining and marketing unit's (Arco Petroleum Products Co.) history—had a plus sign in its earnings report [for more details see page 27].

Exxon, the nation's largest oil company, literally treaded water in the third quarter but wound up the first nine months at −29%. Minus signs proliferated among such companies as Mobil (−48%), Standard of California (−47%), Texaco (−46%), Sun (−43%) and Gulf (−33%).

Shell and Standard of Indiana were not too far off their nine-month 1981 pace with declines of 6% and 8%, respectively.

Among smaller companies, results of Ashland, Amerada Hess, Conoco and Marathon—the latter two acquired by other companies recently—stood out favorably by comparison.

Ashland, whose fiscal year ended Sept. 30, reported a fourth-quarter earnings gain of 54%, and a net increase for the full year of 101%. Amerada Hess had a whopping third-quarter improvement of 84%, while reporting that earnings for the full nine months remained 24% below year-ago levels.

If it had not been for Conoco's earnings, said DuPont, the parent company could not have reported a third-quarter profit. However, DuPont, which acquired Conoco in 1981 in a bitter takeover struggle, did not disclose Conoco's earnings.

U.S. Steel, saying that the Marathon Oil subsidiary had bailed it out of a difficult financial situation in the third quarter, indicated that the latter was probably headed for record earnings in 1982. Marathon's previous high earnings were $371-million in 1980, prior to merging with U.S. Steel early this year.

Downstream Profitability

If there were any surprises in third-quarter reports—perhaps foretelling what year-end reports will reveal at the end of this month—it was the performance of the various refining and marketing divisions. At a time of supposedly depressed prices and declining consumption, several companies said their refining, marketing and transportation operations made money—good money—in the three-month period. (The July-September period, of course, coincides with the bulk of the traditional driving season.)

Most notably, Atlantic Richfield's Arco marketing unit delivered $277-million in pre-tax earnings—more income

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than it generated in the entire first half—apparently as a result of its dramatic no-credit-card, low-price retail strategy.

Shell Oil, too, said its oil products section (refining, marketing, transportation) "earned a record $138-million in the third quarter, an increase of $17-million over last year."

Exxon and Amoco said they benefited not only from higher refining and marketing profits—"higher sales volumes and improved margins" in Amoco's case—but from heavy withdrawals from low-cost LIFO (last-in, first-out) inventories.

Exxon U.S.A. earned $256-million in its refining and marketing operations in the first nine months of this year versus $35-million in the like period of 1981. Amoco's downstream operations contributed earnings of $100-million during the first three quarters compared to losses totaling $153-million in the comparable 1981 period.

And, Gulf Oil, benefiting from lower crude oil costs and a 9% increase in third-quarter refined product sales, reported nine-month earnings of $217-million in refining and marketing, "entirely from the reduction of LIFO inventories." The results, the company said, enabled its downstream operations to "move back into the black."

Third Quarter and Nine Month Earnings

(Millions of dollars)

Company	3rd Qtr. 1982	3rd Qtr. 1981	% Chng.	9 Mos. 1982	9 Mos. 1981	% Chng.
Exxon	$1,070.0	$1,075.0	—	$3,195.0	$4,500.0	(29.0%)
Mobil	323.0	506.0	(36.2)	95[illegible].0	1,846.0	(48.0)
Texaco	303.0	589.0	(48.6)	975.0	1,803.0	(45.9)
Stand. of Calif.	459.0	527.0	(12.9)	952.0	1,810.0	(47.4)
Stand. of Ind.	559.0	608.0	(8.1)	1,411.0	1,538.0	(8.3)
Gulf	146.0	316.0	(53.8)	623.0	930.0	(33.0)
Shell	442.0	471.0	(6.2)	1,166.0	1,242.0	(6.0)
Atl. Richfield	446.9	433.5	3.1	1,242.1	1,201.5	3.4
Stand. of Ohio	487.3	470.0	3.7	1,410.0	1,470.0	(4.1)
Sun	152.0	210.0	(27.6)	386.0	682.0	(43.4)
Phillips	131.6	192.3	(31.6)	460.4	692.8	(33.5)
Getty	178.0	205.2	(13.3)	493.4	640.4	(23.0)
Union	212.8	193.0	10.3	578.9	555.4	4.2
Amerada-Hess	80.1	43.5	84.1	125.0	164.3	(23.9)
Cities Service	25.0	77.8	(67.8)	152.7	225.8	(32.4)
Tenneco	198.0	156.0	26.9	531.0	553.0	(4.0)
Ashland (a)	75.8	49.3	53.8	180.9	90.0	101.0
Kerr-McGee	56.8	50.3	12.9	136.2	145.1	(6.1)
Dia. Shamrock	42.3	54.4	(22.2)	39.6	57.2	(30.8)
Murphy	43.9	41.1	6.8	119.0	124.5	(4.4)
Amer. Petrofina	12.7	21.7	(41.5)	39.6	57.2	(30.8)
Tosco	22.1	19.1	15.7	129.4	(7.5)	—
Total	8.3	(9.5)	—	7.5	(48.9)	—
Quaker State	11.5	9.6	19.8	31.4	20.6	52.4
Pennzoil	53.5	47.5	12.6	138.2	166.9	(17.2)
Husky	17.8	11.8	50.8	(2.0)	30.0	—
Crown Central	8.4	(5.2)	—	2.4	(11.5)	—

(a) 4th qtr. and full year; fiscal ends 9/30.

Now, U.S. Surplus Alcohol

While campaigning in Omaha, Neb., just before the recent elections, President Reagan signed a bill that makes a large amount of government-owned surplus grain available for conversion into alcohol fuels.

According to the government, the Surplus Agricultural Commodities Act will result in 30-million bushels of corn being converted into about 80-million gal. of alcohol in the coming year.

The act stems from projections that the record harvests of the past two years will cause the government stockpile of surplus corn to reach 400-million bushels by October 1983 [NPN—Nov. '82, p29].

Advocates say the act will reduce fuel-alcohol prices by allowing conversion plants to run more efficiently, and will cut government warehousing costs by reducing the stockpile.

Legislative and marketing opponents of the bill point out that alcohol (because of its nearly tax-exempt status in many states) is already reducing gasoline tax revenues and causing gasoline wholesale volumes to drop as more stations switch to cheaper fuel-alcohol blends. They fear the new government grain conversion will only make their problems worse.

U.S. ethanol production is expected to top 400-million gal. in 1982.

Crude Oil Reserves Slip While Gas Gains 1.4%

Department of Energy's annual report on crude oil and natural gas reserves in the U.S. shows that crude oil dropped 1.3% in 1981 while natural gas rose 1.4%.

This marked the fifth straight decline for crude oil, the government says.

Total crude oil reserves as of Dec. 31, 1981, were estimated at 29,426-million bbl. compared with 29,805-million bbl. the preceding year. The 1977 total was given as 31,780-million bbl.

Natural gas's proved reserves were estimated at 201,730-billion cu. ft. at the end of 1981, up 1.4% over 1980's total of 199,021-billion cu. ft.

DOE took over the assignment of estimating proved reserves in 1977. Prior to that, the chore had been handled by committees of American Petroleum Institute and American Gas Assn.

Three Majors Prevail In DOE Overcharge Suit

Exxon U.S.A. and three other major companies have won a federal suit involving claims that they overcharged customers a total of more than $231-million for the period 1974 to 1977.

A New York federal court ruling in October upheld Exxon's position in a joint suit filed against the Department of Energy. The court ruled valid the company's gasoline pricing at company-operated stations during the period in question.

DOE, however, was expected to appeal the ruling to the Temporary Emergency Court of Appeals (TECA).

The suit originally was brought by Mobil in 1979, calling for a court interpretation of a 1977 DOE claim. At that time, DOE said Exxon owed customers $73-million; Mobil owed $38-million; Gulf owed $50-million, and Marathon owed $70-million, according to spokesmen for each company.

Ashland Petroleum last year withdrew from the suit filed jointly in 1979. It agreed in a consent order to pay $19-million to gasoline resellers and give $6.1-million in credit to distillate, aviation and residual fuel customers.

For their part, Exxon and the other major parties argued—and the court agreed—that DOE's 3¢ refiner price rules' interpretation was invalid because the agency tried to impose them retroactively. "The DOE's move represented retroactive amendment of regulations in existence for several years," Exxon's marketing vice president, R. C. Kiddoo, said after the ruling. "The rules here had been stated clearly, and Exxon was in compliance with those rules as originally set out."

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Gasoline Tax Average 14.11¢—Higher Yet?

While both federal and state governments look at gasoline taxes as a potential source of additional income, a recent American Petroleum Institute (API) summary says current tax levies (state plus federal) now average 14.11¢ gal.

State gasoline taxes by themselves average 10.11¢ gal. [see the accompanying API state-by-state tax report].

Many Washington sources believe that the Reagan administration will propose to increase the current 4¢ federal tax. The increase was a hot subject on several occasions this past year, but each time it came up, it was put on the back burner for political reasons.

Most states use a flat cents-per-gallon tax base, but 10 have a variable formula tax that allows the tax to rise (and fall) with the price of gasoline.

With consumption and prices slipping, it would not be surprising to see some of the states with variable formulas taking a second look at their tax base. Variable formulas have been established in Indiana, Kentucky, Maryland, Massachusetts, Nebraska, New Mexico, Ohio, Rhode Island, Washington and the District of Columbia.

State Gasoline Tax Rates

State	Per Gal. Tax Rate	State	Per Gal. Tax Rate
Alabama	11.00¢	Montana	9.00¢
Alaska	8.00¢	Nebraska	[illegible]
Arizona	[illegible]	Nevada	[illegible]
Arkansas	9.50¢	New Hampshire	14.00¢
California	7.00¢	New Jersey	8.00¢
Colorado	9.00¢	New Mexico	10.00¢
Connecticut	11.00¢	New York	8.00¢
Delaware	11.00¢	North Carolina	12.00¢
Dist. of Col.	14.00¢	North Dakota	8.00¢
Florida	8.00¢	Ohio	11.70¢
Georgia	7.50¢	Oklahoma	6.58¢
Hawaii	8.50¢	Oregon	8.00¢
Idaho	12.50¢	Pennsylvania	11.00¢
Illinois	7.50¢	Rhode Island	11.00¢
Indiana	11.10¢	South Carolina	13.00¢
Iowa	13.00¢	South Dakota	13.00¢
Kansas	8.00¢	Tennessee	10.00¢
Kentucky	10.00¢	Texas	5.00¢
Louisiana	8.00¢	Utah	11.00¢
Maine	9.00¢	Vermont	11.00¢
Maryland	11.00¢	Virginia	11.00¢
Massachusetts	10.40¢	Washington	12.00¢
Michigan	11.00¢	West Virginia	10.50¢
Minnesota	13.00¢	Wisconsin	13.00¢
Mississippi	9.00¢	Wyoming	8.00¢
Missouri (a)	7.00¢	**Avg. Tax Per Gallon**	**10.11¢**

(a) 11¢ for 1983 if approved by voters in Nov. elections. Compiled by API—Oct. 31, 1982.

Dim Volume Prospects for Year 2000: OTA

Some eye-popping predictions from the congressional Office of Technology Assessment (OTA) suggest that by the year 2000, some automobiles will get 85 miles per gal. of gasoline, passenger-car consumption of gasoline may barely top 1-million b/d, and the synthetic fuels industry may be producing at a rate of 5-million b/d.

Within 18 years, says the agency set up by Congress to keep members informed about technological developments, improvements in automotive fuel efficiency should result in mileage figures of at least 45 mpg and perhaps as much as 85 mpg. Actual efficiency will depend on the pace of technological developments, says the office, as well as demand for fuel-efficient vehicles and the size mix of cars sold.

Due mainly to improved vehicle economy, the office also predicts that passenger-car gasoline consumption will drop from 1980's 4.3-million b/d level to a mere 1.3- to 2.1-million b/d by 2000. Production of synthetic transportation fuels could range anywhere from negligible amounts to 5-million b/d, the office adds, depending on the success of several new technologies which have yet to be proven on a commercial scale.

Stationary uses of fuel oil, the OTA report to Congress concludes, could drop to 2.6-million b/d by 1990, and, by 2000, 60% to 100% of that remaining consumption might be curtailed. Actual consumption will largely be determined by the willingness and ability of individuals and companies to switch to other fuels, conserve oil and adopt new technologies.

The congressional report examines the social and environmental impact of the dwindling dependence on foreign petroleum and the massive shift of investment capital to new technologies, but makes no mention of the effect of dwindling fuel consumption on the petroleum marketing industry.

Two Indiana Firms Bank on $25 Shale Oil

In southeastern Indiana, far removed from the Colorado Rockies which have attracted the lion's share of attention through the years, two relatively small firms are taking a head-on shot at converting shale into oil.

Southern Indiana Shale Oil Co. and Midwest Energy Resources Co., both of Marysville, Ind., a little place in Clark County abutting the Kentucky state line, are building a demonstration plant on a five-acre site.

So hopeful are they that they've ordered a 10,000 b/d commercial-sized conversion unit, with plans to increase it to 50,000 b/d if all goes well. On the other hand, there's a clause in the purchase contract that says the commercial plant can be cancelled if the demonstration plant fails to make the grade.

U.S. Shale Oil of Warminster, Pa., has been chosen to supply the equipment and process necessary for construction of both the demo and commercial plants.

No one is saying much out loud about the dollar investment or the goal of the two companies. But Indiana state sources have been quoted as saying the target is $25-bbl. shale oil, which is significantly below the going price of U.S. and foreign crude oil in the $30 and up range.

State officials estimate that shale reserves in Indiana are roughly equivalent to 40-billion bbl. of crude oil. The two companies also hold title to extensive acreage in Pennsylvania.

Exxon and Tosco recently abandoned a multi-million-dollar project in Colorado because of rising costs and unfavorable economic and supply conditions. Despite this, the Indiana project is proceeding with a projected April 1983 start-up date.

What's Next?

Just about all of the white-knuckle things that happened to oil marketers in 1982, particularly to jobbers, are in for repeat performances in 1983—with the additional proviso that the going will be even tougher in the first half of the new year.

There are a few bright spots, of course, including the projections that economic activity will continue its fourth-quarter pickup and show moderate growth of 3% in 1983.

Overall, however, there's no real relief in sight for oil jobbers who have been buffeted all over the lot in the year just coming to a close.

Times Are Tough

Here's a bird's eye view of 1983 vis-á-vis 1982:

- **Supply:** More than enough, with refineries coasting along at a 70% utilization rate and enormous quantities of crude oil available the world over.
- **Demand:** No better than in the current year, with gasoline expected to dip another 57,000 b/d in 1983. Distillates will be up somewhat but space-heating won't be the beneficiary—the increases will be in industrial fuels and diesel for transportation.
- **Pricing:** Competition for gallonage will be fierce and get worse at all levels, with the consumption pie shrinking again for the fourth consecutive year.
- **Credit Cards:** Just about as wild as anyone can imagine as majors and independents fight to counter each others' moves and recoup lost volumes and market share. Perhaps more card eliminations, more surcharges, more discount-for-cash schemes and more "we'll take anybody's card" competition [see related story on page 28].
- **Margins:** With supply up, prices down, what else can margins do but suffer continued malnutrition? Supplier competition for both retail and wholesale markets now handled by jobbers also is going to impact heavily in this area.
- **Capital Spending:** Off substantially from the multi-billion-dollar programs of recent years as profits continue to erode in most major areas.
- **Divorcement/Divestiture:** Although there will be much clamor in Washington for legislative relief, there won't be much direct action. The areas to watch will be the states—where all kinds of divorcement/divestiture bills will be considered in 1983. Marketers, especially retailers, have heavy clout in the state legislatures, so anything can happen. Jobbers aren't home free, either, because retailers want them out of their arena and are pressing hard to achieve just that.
- **Jobber/Supplier Relations:** Expected to worsen in '83 as pressures and competition drive more distributors against the wall and resentment grows by leaps and bounds.
- **Population Trends:** More buyouts and mergers by jobbers in 1983 as those in the fringe areas throw in the towel. Similarly, another decline in the number of service stations, especially those in the 30,000 to 40,000 gal. a month area. New year-end total: under 150,000. Watch for big takeover thrusts, too, à la Conoco, Marathon and Cities Service. The toe-stubbing by Mobil and Gulf and the quiet acquisition of Citgo by Occidental Petroleum lay the ground rules.

Intense Street Fighting

The ferocious price competition that characterized oil marketing in 1982 is likely to extend well into 1983, market experts believe. Oil jobbers, especially, may continue to wonder if their class of trade hasn't become an "endangered species."

The underlying causes of weak prices and profit margins in 1982 will carry over into 1983.

Overall demand for gasoline, the industry's big-ticket item, continues to decline. It was off 3.2% in late 1982 as compared to 1981 and has been dropping constantly since 1979. This has set off a mad scramble for sales as everybody—both majors and distributors—fights for a share of the shrinking pie.

The fierce street competition has had a devastating impact on prices and margins so far, and the experts see no easing of the situation in the coming year.

Gasoline pump prices fell about 21¢ gal. on an inflation-adjusted basis, or 16%, from March 1981 to September 1982, according to the American Petroleum Institute.

Gasoline jobbers generally say that, on the average, their margins have plummeted at an even greater rate. Some with dealer-type operations recently said their margins were in the range of 1.12¢ to 1.25¢ gal. as compared to 4.25¢ to 5¢ gal. in the late 1970s.

Private-brand independents and other large chain retailers were reporting similarly tough situations at the same time. One such marketer in Denver said he had a "composite" (or average for three grades) rack-to-retail margin of just 1.5¢ gal. for one period late this year. Others reported they were lucky if they could get 5¢ or 6¢ gal. over rack costs for leaded regular

Many branded jobbers say they saw a pattern developing in the last half of 1982 in which some suppliers have reduced wholesale prices to their dealers without corresponding reductions to jobbers. The net effect is reduction in jobber margins or "functional discounts."

Jobbers began fighting such supplier actions by threatening to call for government investigations and to support legislative divorcement or divestiture.

Communications were improving between suppliers and jobbers over these issues late in the year. But the fierce competition for market share will likely continue putting pressure on both prices and margins.

Increasingly, there is private talk in some circles that jobbers and dealers eventually will wind up buying product at the same price in metropolitan markets. Jobbers, in fact, have complained that company-supplied dealers were given lower retail prices than the jobbers could buy for at wholesale.

It is doubtful that one-tier wholesale pricing will develop in 1983 because rarely does the industry move so rapidly toward such revolutionary change. Some observers believe that a trend of this kind is developing, however, and they say a continuation of 1982's chaotic marketplace conditions could bring it more into focus in the coming year.

Market observers say the profit-margin outlook for other primary petroleum products may not be much better than it is for gasoline.

With the general economy sick and showing only scattered signs of recovery, marketers find such customers as farmers and small commercial accounts searching for the lowest fuel prices they can find. This has put pressure on diesel fuel and lubricant prices. Suppliers of other products such as jet fuel and middle distillates find customers to be "bargain conscious," too.

Meanwhile, the industry is sitting with about 5-million b/d of surplus refinery capacity at year's end and crude oil inventories are around 50-million bbl. over minimum requirements. Unless a major disruption of foreign imports were to occur, refiners would likely move quickly to supply any slight spurt in consumption.

In view of the general economic outlook and overall supply/demand conditions, most experts have little reason to expect much improvement in product prices or margins over the coming year.

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1983 Supply/Demand

Independent Petroleum Assn. of America (IPAA), whose fall forecast is usually well on target, concurs in the general feeling that things in 1983 aren't going to be much different from the way they were in the year just ending.

Total demand, including exports, will be off ever so slightly. Domestic demand will be up a miniscule 0.5%—roughly 77,000 b/d. Industrial fuel and diesel fuel will account for most of that. Gasoline will be down again—for the fourth consecutive year—by 51,000 b/d, or 0.8%.

Supply in 1983 will be up slightly, about 2.1% or 331,000 b/d. Imports will account for most of the increase because domestic production of crude oil and natural gas liquids will be fairly well balanced with less than a 1% change.

Inventories at the end of 1983 are expected to be about the same as they are at the end of 1982.

Crude runs will be about 250,000 b/d in 1983, but with fewer refineries doing the processing the utilization rate may improve somewhat. Crude runs are expected to average 12,247,000 b/d next year.

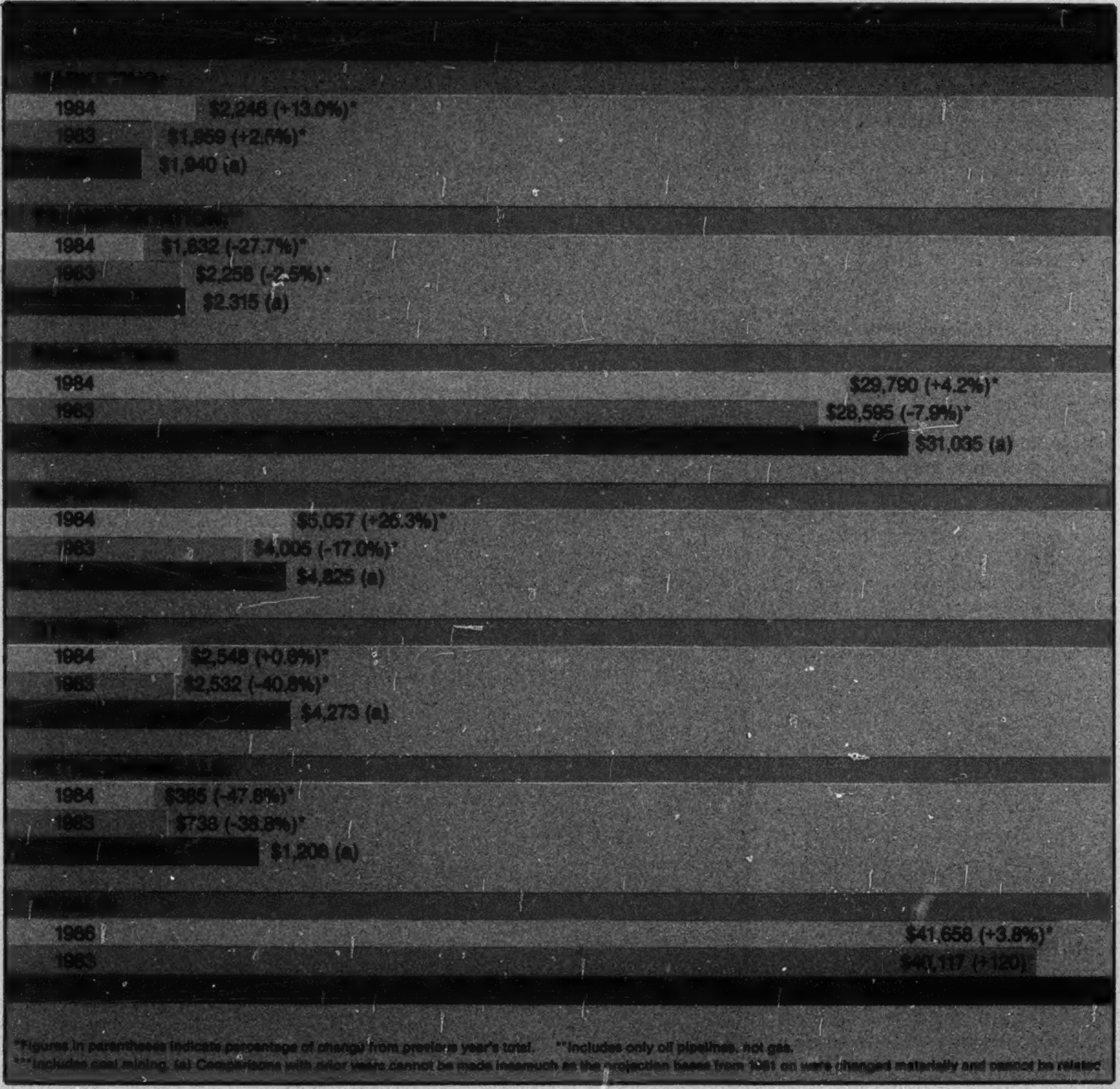
Here's the way IPAA spells it out:

"Domestic demand is expected to reverse its downward trend of the past four years and average 15.5-million b/d in 1983, a modest increase of approximately 77,000 b/d from an estimated 15.4-million b/d in 1982. Renewed growth in industrial demand for oil products as the economy improves, coupled with gains in oil demand in the transportation sector, are expected to account for most of the forecast growth.

"Motor gasoline consumption is forecast to decline 51,000 b/d in 1983 to average 6.50-million b/d, following a drop of about 30,000 b/d in 1982. Continued growth in the number of miles driven and in the vehicle population is expected to be slightly offset by further improvements in fuel efficiency.

"Aviation fuel consumption is projected to increase approximately 1% to average 1.04-million b/d in 1983 following an estimated decline of 0.7% this year. Improvement in the economic climate will lead to increased passenger miles flown, with potential increases being partially mitigated by improved fuel efficiency.

"Middle distillates are expected to show a 2.0% growth to average 2.93-million b/d in 1983, up 56,000 b/d following an estimated 87,000 b/d decline in 1982. This will reverse the drop of nearly 600,000 b/d from the 1978 level of 3.44-



Source: McGraw-Hill Economics Department, Nov. 1982.

million b/d, due to natural gas substitution, conservation, and the recessionary trend of the last two years. Growth in the demand of distillate for transportation and industrial fuel use will offset a slight decline in residential heating oil consumption.

"Residual fuel oil consumption is projected to decline 42,000 b/d to average 1.78-million b/d in 1983. This moderate decline follows a drop of over 265,000 b/d in 1982. Most of this decline will be the result of increased penetration of coal, nuclear and hydroelectric power in the electric utility sector.

"Demand for liquefied petroleum gases is expected to show an increase of 0.7% in 1983, following a 1.3% increase in 1982. Other products are expected to increase 4.1% in 1983 following a 13.4% decline in 1982."

Capital Spending

The fuzz really came off the peach in 1982 as the nation's oil companies responded to sharply reduced profits with heavy cuts in their capital spending programs and projections for 1983-84.

McGraw-Hill's annual forecast, released only a few weeks ago, seemed almost unbelievable when placed side-by-side with the optimistic report it issued in the fall of 1981.

Last year, for example, McGraw-Hill predicted oil's capital spending would hit $56.6-billion in 1982 and $61.2-billion in 1983. The new forecast downgrades the 1982 total to $45.6-billion; the 1983 total to $40.1-billion; and the 1984 outlook to $41.7-billion.

Exploration, production and refining bore the brunt of the 1982-84 cutbacks vis-à-vis the projection of last fall.

The continuing surplus of crude oil and products discouraged drilling programs of the major companies at home and abroad. Similarly, with refineries bumping along at a 70% operating level and many being mothballed for that reason, the industry obviously had less appetite for major expenditures in this area.

Marketing, despite the slowdowns, seems to be faring reasonably well.

Last year's projection indicated that the industry would spend about $2.4-billion on marketing projects in 1982 and $2.6-billion in 1983. The new forecast calls for $1.9-billion in 1982; $2.0-billion in 1983, and $2.2-billion in 1984.

Most of this funding probably will go into the upgrading and modernization of service stations as well as expansion of self-serve pumper and convenience store facilities.

The projected marketing investments represent a 2.5% increase in 1983 over 1982, and a 13.0% increase in 1984 over 1983. The $2.2-billion that oil has earmarked for 1984 is a near record for any one year. The previous actual high was 1981 when marketing investments totaled $2.1-billion.

If the economy improves through 1983, it may be that McGraw-Hill's next fall forecast will be on the sunny side again. As with the year coming to a close, however, much will depend on oil company earnings in 1983.

U.S. Petroleum Supply and Demand Forecast—1983

(000 b/d, except closing stocks)

	1st Q	2nd Q	3rd Q	4th Q	Est.1983	Est.1982	% Chng.
Domestic Product Demand:							
Motor Gasoline	6,165	6,660	6,681	6,491	6,500	6,551	– 0.8%
Aviation Fuels	1,045	1,030	1,063	1,029	1,042	1,031	+ 1.0
Middle Distillates	3,409	2,708	2,435	3,154	2,925	2,869	+ 2.0
Residual Fuel Oil	2,027	1,618	1,650	1,826	1,780	1,822	– 2.3
Liquified Gases	1,691	1,381	1,305	1,605	1,495	1,485	+ 0.7
Other Products	1,533	1,784	1,908	1,734	1,740	1,647	+ 4.1
Total	15,870	15,181	15,042	15,839	15,482	15,405	+ 0.5
Exports:	685	665	635	640	656	746	–12.1
Total Demand:	16,555	15,846	15,677	16,479	16,138	16,151	– 0.1
Total Supply							
Domestic Production:							
Crude Oil	8,550	8,550	8,550	8,550	8,550	8,633	– 1.0
Natural Gas Liquids	1,542	1,523	1,524	1,541	1,532	1,544	– 0.8
Total	10,092	10,073	10,074	10,091	10,082	10,177	– 0.9
Required Imports:							
Crude Oil	3,686	3,659	4,016	3,962	3,832	3,470	+10.4
Motor Gasoline	168	186	192	174	180	194	– 7.2
Aviation Fuels	36	31	36	37	35	31	+12.9
Middle Distillates	152	115	129	156	138	112	+23.2
Residual Fuel Oil	860	685	739	814	774	769	– 0.7
Liquified Gases	289	227	219	268	251	228	+10.1
Other Products	168	211	199	190	192	196	– 2.0
Total	5,359	5,114	5,530	5,601	5,402	5,000	+ 8.0
Other Supply	697	678	648	680	677	653	+ 3.4
Total Supply:	16,148	15,865	16,252	16,372	16,161	15,830	+ 2.1
Closing Stocks (000,000 bbl.):							
Motor Gasoline	239.4	223.7	222.5	231.0	231.0	227.4	+ 1.6
Aviation Fuels	40.8	41.2	40.2	40.7	40.7	39.4	+ 3.3
Middle Distillates	127.1	135.4	176.0	163.8	163.8	171.2	– 4.3
Residual Fuel Oil	52.7	57.1	64.0	65.5	65.5	56.8	+15.3
Liquified Gases	100.8	110.5	129.3	120.7	120.7	115.4	+ 4.6
Other Products	59.2	59.3	53.6	55.5	55.5	53.2	+ 4.3
Total Products	620.0	627.2	685.6	677.2	677.2	663.4	+ 2.1
Unfinished Oils	118.6	120.2	119.6	118.4	118.4	116.4	+ 1.7
Natural Gas Liquids	14.6	13.5	13.8	13.7	13.7	14.5	– 5.5
Crude Oil	346.5	340.6	335.5	335.4	335.4	341.9	– 1.9
Total All Oils:	1,099.7	1,101.5	1,154.5	1,144.7	1,144.7	1,136.2	+ 0.7
Crude Runs to Stills:	12,023	12,136	12,442	12,373	12,247	11,975	+ 2.3

Source: Independent Petroleum Assn. of America, October 1982.

Washington Scene

Much of what happens in Washington for the next year—or even two years—will depend largely on the shape of the new Congress and the condition of the economy early in the year. There are many "ifs" involved.

If the 98th Congress, for example, is "pro-Reagan," the White House will be able to press ahead with its legislative agenda, giving lawmakers time to take up some of the issues important to petroleum marketers. If the reverse happens, dogfights over administration proposals could tie Congress into knots and make passage of "low priority" measures almost impossible.

By the same logic, an upturn in the economy will benefit everyone with legislation in the congressional hoppers;

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existing problems—such as continued double-digit unemployment—will keep lawmakers' attention focused away from petroleum marketing on the whole.

Still, there are some issues which will get attention in the nation's capital, regardless of other events.

First and foremost will be the fallout from the hearings scheduled this month by Rep. Berkley Bedell. Aides to Bedell say that, at least for now, there is no plan to follow the hearings with legislation, but the possibility for legislation next year hasn't been ruled out. Much will depend on the picture of the petroleum marketplace developed in the sessions.

The same sentiments seem to prevail among the groups testifying at the hearings. The strategy seems to be to point out the problems in the marketplace without suggesting specific remedies.

Still, two topics sure to be covered are retail divorcement and crude oil divestiture. Neither looks like it has enough support now to make a serious run at passage.

Natural gas decontrol is sure to surface again. While predictions about gas decontrol are risky, it's safe to say that any move to speed up price decontrol on natural gas will run into stiff opposition and lead to a monumental battle.

Whether or not gas decontrol is placed before Congress may depend entirely on the White House, which reportedly has a decontrol bill drafted and ready to go almost any time. If the White House decides to pursue decontrol, it probably will do so very early in the year—as far from the 1984 elections as possible.

Another sure bet is that Congress will be looking for new revenues next year, and the gasoline excise tax will be an inviting target. There is virtually no chance the tax will escape an increase as it did in 1982, according to both lawmakers and industry experts.

Like the gas decontrol proposal, this one will be unpalatable to the White House and so will come early in the next congressional session in hopes voters will have short memories in 1984. Also in jeopardy is the tax exemption now enjoyed by alcohol fuels.

Other legislation sure to put in an appearance next year includes the so-called anti-merger bill, and legislation banning credit card surcharges or processing fees. The anti-merger bill faces tough sledding, largely because the Federal Trade Commission has steadfastly refused to endorse it and, like divorcement, it's highly unlikely President Reagan would sign such a bill even if Congress can pass it.

Credit card surcharges are another matter. As the flash point for a whole range of dealer and jobber complaints about refiner marketing practices, the surcharges could be the hottest petroleum market topic in Congress next year.

A coalition of marketing groups already has taken complaints about the surcharges to the Federal Trade Commission, which conceded—at least according to some sources—that there may be an antitrust case to be made, but advised the marketers to take refiners to court themselves. That's an unlikely course because of the expense involved, but legislation in 1983 is a real possibility.

Outside of Congress, expectations are modest at best. The Energy Department probably will create the biggest stir early in the year when it finally unveils its plan for distributing the multi-million-dollar settlement between the government and Amoco Oil. The Amoco distribution probably will set the pattern for future distributions—and 1983 undoubtedly will see some more of them. Rayburn Hanzlik, the DOE official charged with winding down efforts to recover over-charges arising out of price controls, was unable to complete his work as promised last September, but should finish next year.

After that, it may well be time for DOE itself to fade from the picture. Political considerations prevented the White House from carrying out its plans to abolish DOE in 1982, but the effort could pick up steam next year. If the effort fails, there may still be an Energy Department on paper, but not in fact. Much of DOE's clout in the petroleum marketplace expired with price and allocation controls. When the Economic Regulatory Administration goes out of business next year, little will be left of the DOE bureaucracy.

Divorcement

Early this month, it figures to be divorcement time in Washington once again. Rep. Berkley Bedell (D-Iowa) has scheduled a round of hearings that has been billed as the first thorough look at the petroleum marketplace since decontrol.

Given Bedell's previous sponsorship of retail divorcement legislation and current marketplace conditions, some mention of divorcement probably is inevitable. Whatever happens during the hearings, the reappearance of federal divorcement legislation is likely in 1983. It's also likely that retail divorcement will have more support next year than it has ever enjoyed before.

There is little doubt that small gasoline retailers would like to see divorcement on a national scale. Vic Rasheed, who now heads the Service Station Dealers of

API: Is U.S. Headed for More Trouble?

Is the current surfeit of crude oil and products lulling the American public into old habits and customs which again could lead to the shortage problems of the past?

This and a series of related questions are raised by the American Petroleum Institute (API) in a scholarly review that looks into the past, present and future of oil and gas supplies for the wings and wheels of tomorrow.

"The United States is continually confronted with energy policy choices that can alleviate or exacerbate longer-term energy problems," the 41-page report says.

"In the mid-1970s (and before), Americans adopted policies that did not work and subsequently paid the price. At the end of the '70s and the beginning of the '80s, we chose wisely and have seen the benefits of those wise choices.

"The question is what Americans will do now, in the face of the temporary easing of the energy strain.

"Present signs indicate that we may be slipping back to old ways and heading for trouble again . . . Further progress means applying the lessons we have learned about marketplace pricing, about conservation, about capital needs and about the potential of government lands—all of the ingredients that are required if America is going to become energy strong."

The API report is entitled, "Energy Security for the United States: Progress, Pitfalls and Potential," and is neatly printed in booklet format.

It makes the point that while some trends of recent years "continue to be favorable, other signs are disturbing."

"Millions of barrels a day of domestic energy production are being forfeited as a result of some public choices of the past. It is not too late to reclaim these resources. Should we choose to do so, the amount of energy reclaimed would be more than enough to offset a future shortage comparable to past ones."

To improve the energy outlook, API calls for:

- Decontrol of natural gas, noting that decontrol of crude oil already has aided the U.S. energy situation significantly.
- More leasing of federal lands, onshore and offshore, to make vast resources available for development; coupled with reforms in environmental and clean air laws.
- A better understanding of the impact of tax laws on petroleum exploration and production and how windfall tax legislation actually curtails oil's ability to operate.

API suggests that as much as 3.5-million b/d of oil could be made available to the nation if these points were addressed and resolved.

Copies of the report may be obtained from API in Washington.

America, was an ardent supporter of divorcement in Maryland as head of a regional dealers organization and helped push that state's divorcement law through the legislature.

But unlike previous years, 1983 may see considerable support among jobbers for divorcement. The Texas Oil Marketers Assn. membership has indicated as much in a statement released a few months ago, and other jobber groups are showing signs of support as well.

Chances that divorcement legislation will get through Congress remain slim, however.

One reason for the pessimistic outlook is the lack of support from either of the key antitrust enforcers in Washington. The Justice Department has kept its distance from any examination of major oil company marketing practices and the Federal Trade Commission has issued a report saying it can find no basis for dealer claims that the majors are engaging in anti-competitive marketing practices.

A second reason is the power and financial resources the major oil companies can employ in a legislative battle. Even the staunchest supporters of divorcement concede that it will be an uphill battle at best with the major refiners arrayed against them.

And, should divorcement proponents overcome the congressional obstacles, there's one more hurdle to be faced. In the words of one lobbyist: "Somehow I just can't picture Ronald Reagan signing a divorcement bill. A simple majority in Congress won't be enough. It would take two-thirds of both houses to override a veto, and I'm sure divorcement would be vetoed."

Equipment Outlook

Recent trade shows could lead one to think chicken fryers and soda jerks will dominate petroleum equipment sales next year. And, they'll be present, for sure.

Two trends in petroleum marketing, however, will continue to affect equipment sales in the near future. Foremost is the convergence of gasoline and food retailing. Then, there is the adaptation of meters and registers to myriad retail pricing and funds transfer innovations.

The combination cash register/self-serve console might be a big seller among oil marketers next year. Several of the consoles now on the market reflect the cash and credit-card pricing schemes that grew up around the country over the past year.

Dual pricing, however, could be a passing phase that leads to debit card marketing, many experts are saying. Several equipment makers already market products designed for this in-between stage, with which consumers can use cash or credit card, or credit or debit card.

"Maybe down the road, what the majors really have in mind is changing over to debit cards," says Tom Cordell of the Michigan Petroleum Assn.

The debit card, in fact, already has arrived. One central Illinois marketer has seen a 20% growth in sales since last spring when he connected card acceptors at two stations to four local banks.

"The undercurrent feeling is that banks are getting ready to break loose with pumps tied to computers," says Howard Upton, executive vice president of the Petroleum Equipment Institute (PEI). "And, this will become a self-fulfilling prophecy."

"Gascard Club," a franchise of card-lock operators, also is moving in the direction of debit card marketing, its executives in California say. Gascard already has combined another feature with its modern marketing that is quickly gaining ground: instant credit authorization.

Gascard recently completed an agreement with a local bank which, in effect, permits instant credit authorization for Visa and MasterCard purchases.

The cost efficiencies are there. American Telephone and Telegraph is selling its "PRS 2000" system after a year of testing at 30 Chevron stations in California. Tests showed the card-terminal/phone-line system shaved 20% off credit-card transaction costs and cut the billing time by 10 days.

Vapor recovery nozzles at dispenser islands may become more common in 1983. While the federal Environmental Protection Agency has extended beyond this year many states' deadlines for compliance with ozone-cleansing measures, some 20 state legislatures might pass their own more stringent laws next year. Mostly concerning Northeast states, pending bills could force the typical station operator to pay at least $20,000 per station to retrofit his pumps.

In addition, thousands of tanks that went into the ground during the wild-and-woolly 1960s are reaching their design life. That fact is painfully apparent to any marketer who has been socked with a damage suit arising from tank leaks. Some equipment experts believe leak detection equipment—and even tank replacement—will pick up next year.

Says PEI's Upton: "There is a genuine apprehension about the liability if gasoline is found in the local water system."

TBA Outlook

There were signs in the year just ending that oil marketers—those who stayed involved in the automotive aftermarket—were prepared to knuckle it out with the lowballing merchandisers of tires, batteries and accessories. Gasoline margins of 2% to 3%, often less, left few options for remaining profitable.

If 1983 bears out the trend, oil-channel TBA marketers will be competing on terms they only reluctantly accepted previously: price and promotion.

Gross profit margins in TBA have shrunk from the average 25% to 35% customary in years past (as high as 40% and 50% in some cases) to around 20% today, many marketers report. For some, the margin shrink has been voluntary—as a means of boosting volume; for others, it has been an unhappy consequence of the market share struggle sparked years ago with the emergence of mass merchandisers and auto repair specialists in the aftermarket.

Largely as a result of this "price and promo" oriented competition, eight major oil companies in just the past two years have dropped their TBA programs. Among them, Getty and Mobil eliminated their lines in 1981; then it was Conoco last May. At the end of this month, Champlin Petroleum intends to abandon its program.

All jumped ship for similar reasons: Their commercial customers had gotten out of the business or were patronizing more efficient and competitively priced suppliers, and the justification for tying up capital in TBA was no longer tenable.

However, the fallout in TBA has left those who remain—and those with the wherewithal to stock and supply TBA on a volume basis—in a potentially enviable position. Volume has become the key, according to many sources—four or more turns in inventory per year and the flexibility to "go after anything that moves."

"There is a great potential for TBA sales, but it may not be actual demand," said one multi-branded jobber recently. "It's really up to the jobbers and dealers to push TBA on the driveways. They have to advertise things like free safety inspections and offer things like wiper blades to generate the business."

"As the big oil companies slow down on TBA," says a volume-conscious New England jobber, "we're picking up on that stuff." A Florida marketer this year made the unusual oil jobber claim that his dealers are now able to "match or beat" competing mass merchants on tire prices, sometimes underselling the discounters by as much as $15 a tire.

Such marketers apparently have adjusted to competitive pressures and aftermarket economics which for years had squeezed others out of the marketplace.

It may be that the oil-channel TBA establishment—part of a total aftermarket which may have grown to $60-billion in revenues this year—has retrenched and regrouped to a position where market points lost since the 1973 oil embargo are finally coming home. A decade later, oil's TBA survivors show signs of being more aggressive, flexible and volume-hungry than their pre-embargo counterparts.

January, 1983 $4.00

Can You Profit on Big Kerosine Comeback?

Why 'Scotty' MacLeod Still Bets on Jobbers

Congress Ponders Charges of Market 'Abuses'

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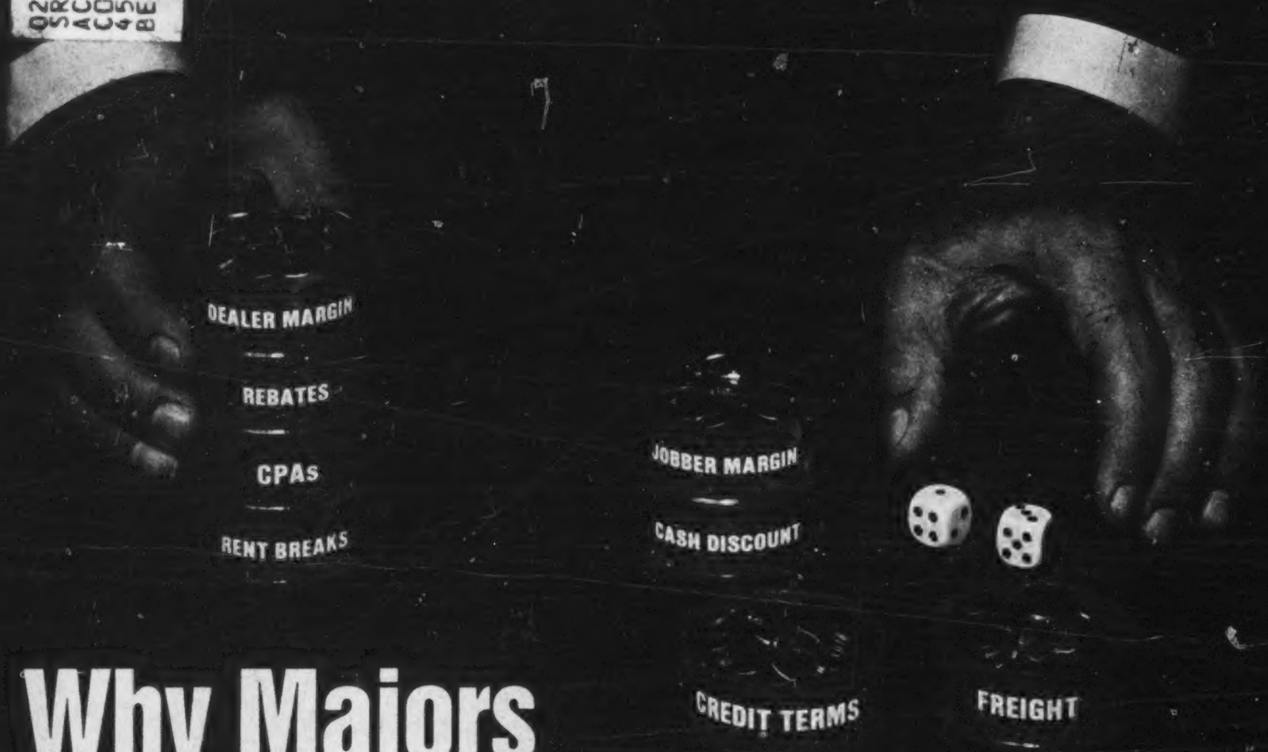
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Why Majors Are Shuffling Strategies

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CASH DISCOUNT
CREDIT TERMS
FR

This is expected to be a crucial year for oil marketers. Dramatic changes set loose with the end of federal controls two years ago are coming to a head, while a record-breaking drop in oil consumption continues. There are bright spots. Experts believe innovative, efficient marketers are making profits now and stand to make even more. Page 36.
Cover photo: John Apolinski, Chicago.

Kerosene
TOTAL SALE
GALLONS
Super 1K

No oil jobber would confuse kerosine with other fuels, as have some unfortunate owners of kerosine heaters. The jobber notes that kero is the fuel with the frantic growth market where supply can hardly keep pace with demand. Page 41.

With jobbers and dealers warning that refiner 'abuses' are driving them out of business, and refiners blaming shrinking gasoline demand and economic recession, the House Small Business Subcommittee on Energy now faces a tough decision: whether—and what kind of—legislation is needed to set things right again. Page 26.

• LATE NEWS

Deeper Price Cutting Yet On World/Domestic Levels?

With foreign producers locked in a struggle for the free world's shrinking oil market, gasoline marketers in the U.S. are beginning to get lower wholesale prices in their own battle over a smaller domestic pie.

The Organization of Petroleum Exporting Countries (OPEC) began meeting Dec. 19 to plan their 1983 production and pricing strategies amid some speculation that world oil prices could "collapse."

While analysts of the overall situation generally doubt that OPEC members will allow their cartel to become ineffective, the Research Group on Petroleum Exporters' Policy stated prior to the OPEC meeting that a "price war may break out" if the group failed to iron out problems internally and with non-OPEC producing nations.

The research group, which is close to OPEC, estimates that free-world demand for oil in 1983 will be about 45-million b/d. It figures OPEC's share of this market will be 18- to 19-million b/d, about the same as 1982 but down sharply from OPEC production of 31-million b/d in 1979.

OPEC has had problems for months in getting all member countries to follow the group's guidelines. The average weighted price for OPEC oil would be $34.10 bbl. if all did. However, the actual price in December was $32.80 bbl. and non-OPEC members were selling far below this level.

Domestic crude oil prices have been dropping in the face of the weak overseas' market. Several majors cut their postings $1 to a range of $31 to $32 bbl. recently.

Some of these reductions in crude oil prices have been finding their way to products at wholesale terminals and racks. Some independent gasoline marketers said they were getting "a little breathing room" recently as unbranded product prices tumbled faster than major brand postings. However, most marketers said they expected the two types of product prices to draw back closer together.

The big question in mid-December had to do with the crude oil market and prices. If there should be further reductions in world crude markets, then lower U.S. pump prices are likely to follow.

Arco Gains Are Greatest in Two Market-Share Surveys

Amoco retained its position as the nation's No. 1 marketer through the first eight months of 1982, according to *Lundberg Survey* data, while the price-and-card-war days of early autumn saw Arco gaining ground fast on seventh-ranked Chevron, its West Coast rival.

Another study of the same January-August period, this one a consumer survey, showed both Arco and Shell making 20-league strides in market shares.

By the end of August, shows Lundberg, Amoco had increased its year-end 1981 market share 0.11% to 7.42% of the 100-billion-gal. gasoline market [see table]. Shell clung to second place in the Lundberg ranking, with a 6.71% share or 0.21% lower than its 1981 showing.

Arco's 0.65% market-share jump was the largest for any of the top 11 oil companies during the period. Its 4.49% ranking last August closed the gap between Arco and Chevron to 0.28%. Until 1982, the perennially eighth-ranked Arco has lagged at least a full 1% behind Chevron. The latter company, however, suffered the biggest drop, −0.42%, of the top 11 of companies in Lundberg's eight-month status report.

Another study that tracks consumer purchases, however, shows wide gains for Arco and Shell on branded retail sales. (The *Lundberg Survey* reflects best estimates for major companies' branded and unbranded sales, based on state tax records and company-supplied data.)

According to NPD Research, Inc., of New York, Arco moved into the number three slot in branded retail sales through last August with a 7.2% share of market. Arco's market share for the month of September (one month only) was 7.8%, says NPD. The results put it ahead of Exxon's 7.5% share, and behind Shell's 8.4% share.

Shell gained NPD's top position in September, the same time it launched its "honor all" credit card program as a challenge to Arco's no-card policy and the discount-for-cash tactics of others. This 8.4% September market share represented a 0.8% rise over the August figure, and a 0.9% increase over September 1981.

Arco's year-to-year gain in NPD's September standings, however, was stunning if real—from 4.9% in September 1981 to a 7.8% share of branded retail sales in September 1982, according to NPD.

NPD's data tracks monthly gasoline purchases made for 7,000 vehicles owned by 6,000 families across the country. The firm did not compile year-end 1981 market-share figures, nor would it release data for other oil companies.

Gasoline Market Share Ranks

	1982*	1981		1980	
	% Share	Rank	% Share	Rank	% Share
Amoco	7.42	1	7.31	3	7.40
Shell	6.71	2	6.92	2	7.44
Exxon	6.61	3	6.80	1	7.54
Gulf	5.81	(4)	5.70	7	5.39
Texaco	5.65	(4)	5.70	5	5.95
Mobil	5.54	6	5.33	4	6.01
Chevron	4.77	7	5.19	6	5.77
Arco	4.49	8	3.84	8	3.87
Union	3.23	9	3.33	9	3.50
Phillips	2.82	10	2.90	10	2.83
Sun	2.69	11	2.53	11	2.74

Source: Lundberg Survey. *Column shows 8-month data only.

New Reserve Drawdown Plan

If foreign oil supplies are disrupted again, the government has the 288-million-bbl. Strategic Petroleum Reserve (SPR) to draw on. However, the way they'll draw on it is changing.

Submitted by President Reagan to Congress last month, a new SPR drawdown plan covers basically the same ground as the old (1979) plan, but reflects the current administration's commitment to decontrol and free competition, even in an energy emergency.

The new plan has no provisions for federal allocation of oil, specifies that petroleum held in the reserve will be sold at market prices to the highest bidder—whether the bidder be a foreign or domestic refiner—and limits the amount that can be allocated to one buyer or class of buyer.

• TRENDS

Jobber 'Margins' Will Not Be Clearly Defined from Here On

The traditional jobber margin or discount is becoming very thin or virtually non-existent in many large, tough metropolitan markets today. Some well-respected voices believe this trend may be the beginning of the end of the term "jobber margin" [see page 36].

The traditional jobber "functional discount" has been on shaky ground for some time now for various reasons. There are indications, though, that wide fluctuations in jobber product purchases over the past two years have convinced some suppliers that they need to concentrate more on company-controlled retail channels.

"This is what our company tells us," says a jobber of one major. "They say that when their wholesale prices have gotten a little out of line [too high] in the past two years, their jobber sales have dropped as much as 25% or 30%. During these same periods, their dealer losses haven't been more than 5% or 6%."

This jobber adds that his company's sales representatives say they can't put up with such wide swings in purchases. They have to project ahead of time how much product they are likely to sell and adjust their refinery runs accordingly.

Many jobbers say such talk is mostly nonsense, that they only desert a prime supplier when that supplier has a much higher price for product than the going wholesale market. Nevertheless, the recent trend by many jobbers to shop around for the lowest wholesale prices seems to be contributing to today's shrinking jobber margins.

Branded jobbers are, understandably, upset with this trend. Traditionally, they have purchased product at around 3.5¢ to 4.5¢ gal. below what refiners charged their lessee dealers.

The "functional discount" system for jobbers was established originally in recognition of the jobber's wholesale or middleman function. Theoretically, at least, he owned a string of service stations that he leased to independent dealers or retailers. He serviced these in addition to commercial and farm customers.

Company lessee dealers have been complaining for some time that while this may have been a good system in the past, it has broken down in recent years. They contend that many jobbers today operate their strings of stations with salaried personnel. The dealers say that if jobbers are going to compete with them at retail with such salaried operations, then the two should have equal wholesale buying prices.

Independent dealers who own or lease their stations from third parties have still another gripe about today's wholesale pricing policies. They say company lessee dealers get a break over them, too. "A company dealer who leases his station from the company is getting a net buying price well below posted dealer tankwagon," Bill Ligon, head of a Texas retail trade group, said recently. "The companies tell other dealers that if they don't like it, they can go elsewhere."

Ligon has long supported rack pricing for both jobbers and dealers. He believes that neither the jobber nor dealer should have any product cost advantage "coming out of the [refinery] gate."

He believes, also, there should be a single rack price today and that refiners should be forced to use it as the transfer price to their company stations. Ligon believes such a system would quickly spotlight any subsidization of retail operations.

While such debates continue, refiners in some of their statements to jobber customers seem to be backing away from supporting the traditional jobber margin or functional discount.

Exxon says its position today is that "distributor buying prices are primarily influenced by rack prices." A policy paper adds that "there is no fixed relationship between the DTT [dealer transport truck price] and the DBP [distributor buying price], though they are related in terms of having an effect upon one another in the marketplace. Exxon does not guarantee a specific differential between the two prices but sets its DBP and DTT prices in response to competitive conditions."

Some companies seem to be saying that they intend to remain competitive with other suppliers on product they move through the wholesale channel. As for product they move through the retail channel, they will be competitive with other retail competition.

This seems to indicate that, while jobbers can continue to expect some kind of margin between what they buy and sell product for, it may not be as clearly spelled out as in the past.

—Marvin Reid

• MARKETPLACE AT A GLANCE

AVERAGE GASOLINE PRICES IN THE U.S. (¢ per gal.)

OCTOBER	Gasoline (All types)	Leaded Regular	Unleaded Regular	Leaded Premium
U.S. City Avg.	$1.280	$1.219	$1.295	$1.413
Regions:				
Northeast	1.296	1.238	1.298	NA
North Central	1.277	1.230	1.300	NA
South	1.258	1.195	1.273	NA
West	1.295	1.220	1.312	1.421

Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

STOCKS (Add 000 bbl.)

	11/26/82	11/27/81
Gasoline (total)	230,113	244,097
Gasoline (unleaded*)	93,825	96,048
Kerosine **	44,929	46,678
Distillates	183,011	196,201
Residual	62,286	81,329

**Included in gasoline total.*

***Includes jet fuel.*

Source: American Petroleum Institute.

ing demand" as well as the current economic recession and the natural realignment brought about by decontrol. The intense competition fostered by these factors, the refiners agreed, have shrunk margins at all levels of marketing but have benefited consumers by lowering pump prices.

While jobbers and dealers were testifying, Arco and Texaco came in for the largest share of criticism. Arco vice president George Babikian and Texaco vice president Ellis Gunnels also were subjected to the toughest questioning from Rep. Bedell.

Babikian defended Arco marketing practices by saying that very low pump prices were necessary to meet competition. "We promised consumers when we eliminated our credit cards that our prices would be lower," Babikian testified. "If in a certain location, our competition lowered its prices, we were committed to cut ours more to keep that promise."

Texaco's Gunnels said price discrepancies mentioned by Texaco jobbers and dealers were not a result of predatory pricing, but could result from a combination of the company's sales incentives and the use of composite pricing by the contractors who operate Texaco's company-owned stations.

Texaco marketers had testified that some Texaco-owned stations in the Atlanta area were posting pump prices lower than the terminal price for wholesalers in the same area. Gunnels conceded that the company's incentives could provide a 3.5¢-gal. price reduction for dealers exceeding base sales from the year before, and by pricing premium fuel higher, they could post extremely low prices for other grades.

Questioning, particularly by Bedell, was pointed and at times even adversarial, making it clear that the panel chairman, at least, is ready to propose congressional action. But given the dim prospects for support from the Reagan administration, lobbyists for the independent marketers say an all-out push for federal divorcement legislation probably won't be successful even if the subcommittee decides to pursue it.

In that light, other legislative ideas probably will be the subject of behind-the-scenes discussions for the next few weeks and may be tried before divorcement surfaces again. These may include amendments to the PMPA and federal antitrust statutes, but almost certainly will involve increased pressure on the administration to beef-up existing antitrust enforcement activities. **—Tom Goldsmith**

Nickel Gasoline Tax Hike Goes to 'Lame-Duck' Wire

With many lawmakers already home trimming the tree, Congress and the White House struggled against Santa's deadline to wrap up a $5.5-billion "jobs" package tied to a 5¢ hike in the U.S. motor fuels tax. As *NPN* went to press, odds were favorable that one legislative version or another would pass.

The increase, raising the federal excise tax on retail sales to 9¢, would bring combined state and federal taxes to an average 19.11¢ gal.—and to a high of 23¢ gal. and more in some states, or as much as a gallon of gasoline often sold for less than two decades go.

Marketers and their Washington representatives generally resigned themselves to the "jobs tax," remaining adamant that the additional revenues be dedicated to road and transit projects but nothing else. They also were seeking certain "give backs" in the tax-hike legislation that would liberalize tax remittance schedules and, in one proposal, make service station robberies a federal crime.

The 5¢ federal hike, dismissed only months ago as unnecessary by the Reagan administration, took on the mantle of bipartisan support last month and suddenly became a steamroller in the post-election, lame-duck congressional session. The House-passed tax stalled in the Senate when three filibustering senators succeeded in tabling the measure over President Reagan's objections.

The measure was variously estimated to produce 300,000 to 400,000 jobs in the construction trades (an industry with a 23% unemployment rate) and $5.5-billon in additional revenues. It would earmark the money to trust funds that pay for highway construction and improvements and finance mass transit construction and operations [see table below]. The federal tax on motor fuel was last raised from 3¢ to 4¢ gal. in 1959.

The proposed 125% increase could affect oil marketers on several fronts:

- **Retail Sales.** Most sources do not believe the 5¢ hike will dramatically affect pump sales because product prices have been declining recently. Any significant impact of the nickel increase probably will not be felt until prices firm and renew their upward spiral.
- **Cash Flow and Security.** The federal tax hike, paid either by refiners or other "substantial wholesalers" qualifying under IRS rules, would pinch small jobbers and dealers most. For them, a 5¢ increase would require new cash outlays in the form of higher product prices. Marketers operating under refiner credit card surcharges (usually 3%) stood to lose more. Based on a gal. of gasoline priced at $1.25, a 5¢ increase would raise the effective surcharge rate from 3.75¢ gal. to 3.9¢ gal. on credit card sales.

Independent chain operators, jobbers and dealers all complain about their heightened role as "tax collection agents for the government." Most agree that the additional receipts will create a greater security burden at their retail outlets.

- **Border Wars.** While the additional 5¢ tax will apply to all marketers in the

Highway Trust Fund Sources

Excise Taxes	Fiscal 1982 Income (Add 000)	% of Revenues
Gasoline, 4¢/gal.	4,120,013	52.6
Diesel, 4¢/gal.	594,083	7.6
Trucks, Trailers, 10% price	724,564	9.3
All Tires, 9.75¢/lb.	625,895	8.0
Tubes, 10¢/lb.	22,552	0.3
Tread Rubber, 5¢/lb.	23,402	0.3
Heavy Truck Use, $3.00/1,000 lbs.	332,813	4.2
Truck Parts & Accessories, 8% price	224,176	2.9
Lubricating Oil, 6¢/gal.	76,181	1.0
Total from Taxes	6,743,679	86.2
Interest Earned	1,078,501	13.8
Total Receipts	7,822,180	100.0%

Source: Highway Users Federation

U.S. uniformly, it could have a disproportionate impact on those in border areas—where one state's gasoline taxes are relatively lower than adjacent states'; the higher federal tax load may induce greater crossover traffic to states with lower local taxes.

Examples: Maine's state gasoline tax rate is 9¢ gal., while bordering New Hampshire's is among the highest in the nation at 14¢ gal.; Illinois' 7.5¢ tax compares favorably to nearby Wisconsin's 13¢ state tax; Nevadans, with a 12¢-gal. state tax, may travel to California more often to purchase fuel, where the state levy is only 7¢ gal.

- **State Taxes.** The belief is that a 5¢ federal boost will preempt similar tax increases at the state level, where officials have been sensitized to the volume declines that higher gasoline prices ultimately net. Although state tax increases have been common recently, a 5¢-gal. federal hike will be a stiff one for motorists to absorb and the states are not expected to add to this burden over the short term.
- **The Gasohol Question.** A key concern for many marketers was whether the government planned to exempt alcohol-blended fuels from the nickel increase, as it has done under the current 4¢ federal tax. Influential farm-state Sen. Robert Dole (R-Kan.), chairman of the Senate Finance Committee, was pushing for an alcohol exemption from the 5¢ hike; administration and treasury officials, however, were cool to the idea. Extending the federal exemption could result in a heavy street advantage for marketers geared up to store, blend and sell alcohol-blended fuels through their facilities.

$9-Billon in Collections

Because motor fuel consumption will run a little better than 100-billon gal. in 1983, the overall tax could be expected to generate some $9-billon on an annual basis.

However, there was some confusion as to when the tax hike would take effect. Many sources believed that the effective date was to be April 1; others, including Transportation Secretary Drew Lewis, said the administration's plans called for the increase to become effective next August at the earliest. The start, Lewis said, could come as late as October, the beginning of fiscal 1984.

Oil marketing lobbies in Washington formally opposed the tax increase, but never had much confidence their position would prevail. As Kenneth Doyle, executive director of the Society of Independent Gasoline Marketers of America (SIGMA) said, "We're also very realistic and we felt that if such an increase did come to pass, there should be some sort of benefits in it for gasoline marketers.

"Afterall, there's a big increase in cash-flow requirements and in our security problems," he said. "The government should provide marketers with some sort of a collection allowance, make provision for shrinkage losses and extend the time that marketers have to pay the tax."

National Oil Jobbers Council executive vice president Phillip Chisholm agreed. "We have tax collector and pay-in-advance problems, too. It means that the cash flow of most jobbers is going to be stretched even more, at a time when they can ill-afford it."

Chisholm notes that under present requirements, jobbers are expected to remit estimated tax payments twice a month. He and others would like to see the government loosen the requirement to once-monthly payments because, as things stand now, marketers operating a chain of outlets often need more time to make accurate assessments of their tax liability. Consequently, they may pay too little and are later penalized, or they pay too much and lose the benefits of the cash, according to Chisholm.

Dealers were especially bitter about the tax-hike prospect.

"We've been forced to be tax collectors for federal and state governments right along whether we liked it or not," said Vic Rasheed, exective director of the Service Station Dealers of America. "The amount of money involved is pretty substantial. At 9¢ gal., that's $9,000 a month in tax collections for every station doing 100,000 gal. a month — and there are a lot of them out there.

"Retailers have to be protected and what we want is an amendment to make it a federal offense to rob a service station. We want it to be equivalent to robbing a post office, with a mandatory 25-year term to discourage such depredation."

Rasheed points out that dealers must prepay federal taxes when they receive tankwagon lots. "Every time a retailer gets an $8,000 drop, he has to cough up $720 in federal taxes immediately." If a station is robbed, the dealer is the loser, not the government, he said. "That's not a very fair way of doing things, is it?"

Whatever the ramifications of the 5¢ tax increase, the legislative proposal had not been finalized at presstime. And, it appeared it might undergo a series of revisions right up until the time it takes effect this spring or summer.

As SIGMA's Doyle expects, "We will probably have to go back to Congress this year to seek the 'give backs' we think are essential for gasoline marketers to be collecting these taxes."

Too Many Taxes, Say Majors

The 5¢ federal gasoline tax-hike initiative is just another example of "excessive and increasing taxation of the energy industry," according to the recent complaints of some major oil company executives.

Speaking before a Detroit business group in late November, Texaco chairman John K. McKinley characterized the proposed nickle increase as "inequitable and bad national policy." With the revenues dedicated to building and repairing highways and bridges, McKinley conceded that "an increase of 2¢ or 3¢ a gallon at most could perhaps be tolerated," but any higher levy would be harmful.

But more harmful than the so-called "user taxes" at the downstream end are direct production taxes that the industry complains are sapping necessary investment funds. Taxes at all levels of government are impinging on companies' exploration and production monies, and threaten the future supply outlook, the majors say.

Claiming that the oil business is the most heavily taxed industry in the U.S., McKinley said that the federal windfall profits tax had netted the government $45-billion from its inception in early 1980 through mid-1982. "This money for taxes is money lost to energy exploration and development," he said, adding that Texaco paid $620-million in windfall taxes through the first nine months of 1982—leaving the company with "only" $361-million in net U.S. earnings.

Amoco Oil is another company on the stump against government taxation policies and the "misnamed windfall profits tax." The tax, according to Amoco president Richard M. Morrow, "is actually an excise tax levied on oil company revenues, regardless of whether or not the company earned a profit."

"If, instead, this money could go for energy development, this year alone we would be able to drill about 20% more wells. These additional wells would help maintain our industry's pace of reserve replacement to assure future energy supplies."

Taxes, Morrow says, are beginning to "remove the incentive, and even the ability, of producers to produce."

Previously, Amoco chairman John E. Swearingen had complained to stockholders that "the impact of record high taxes was a major factor affecting our 1981 results."

"Our direct tax bill—not including product taxes collected from our customers—totaled $4.9-billion, or the equivalent of 16.4% of our worldwide sales and operating revenues, and 2.6 times our net earnings. . . .

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Alternate Fuels Need 'Prudent Nurturing' To Meet Expected Supply Gap: GM Research

Petroleum will remain the primary source of motor fuels worldwide over the next two decades, according to a 20-year scenario for energy availability and alternate fuels compiled by General Motors Research Laboratories (GMR).

But the report, titled "U.S. Automotive Fuels—1982 Shapes a New Outlook," also underscores the necessity for a well-planned alternate fuels industry. It points to the need for consistent government policies and private incentives to fill what could be a disruptive supply/demand gap expected to materialize around the turn of the century.

The assessment, authored by Nick E. Gallopoulos, assistant head of the GMR fuels and lubricants department, offers these projections:

- "U.S. petroleum imports will be high (over 30% of consumption), but probably will not return to the peak levels of the late 1970s (48% of consumption in 1977)."
- "The United States will remain vulnerable to supply interruptions but not to the extent that it was in the 1970s."
- "U.S. production of natural gas, on an equivalent energy basis, may be as much as 20% to 25% greater than that of petroleum, and the main sources of imported natural gas (Canada and Mexico) are more secure than those of petroleum."
- "U.S. petroleum prices will probably increase at a rate equal to or slightly higher than that of inflation, barring major disruptions in the Middle East, or a very strong OPEC cartel. Consequently, automotive fuels made from coal, oil shale or biomass will probably be unattractive for private investment in the U.S.—if investment policies are dominated by free-market forces."
- "Alternative fuels are expected to make only a modest contribution, less than 10% of liquid fuel consumption, to the U.S. energy supply by the year 2000 . . . [and] will require that the federal government adopt supportive policies."
- "The future of methanol looks relatively promising for the near-term future of alternative fuels. If emerging technology can cut production costs, and if methanol engines can be built that have 15% to 20% efficiency advantages over gasoline engines, then methanol vehicle costs to the consumer may be competitive with those of gasoline vehicles. Phasing the production of methanol and methanol-consuming vehicles, and implementing a methanol distribution network remain major hurdles, however."

U.S. Alternative Automotive Fuels

Fuel	Cost/BTU Relative To Gasoline	Potential	Major Obstacles
LPG or Natural Gas	Less Now, Most Advantage Lost With Decontrol	Limited (Specific Applications)	Availability, Distribution, On-Vehicle Storage
Ethanol (From Biomass)	2.8	Limited (Only as Gasoline Blending Agent)	Availability, Cost
Gasoline and Diesel Fuel (From Coal)	1.6	Limited in Near Future, Good Long-Term	Conversion Technology, Cost
Gasoline and Diesel Fuel (From Shale)	1.2	Good	Environmental and Social Impacts
Powdered Coal	Less	Poor	Coal Particle Size, Impurities Removal, Engine Operation and Durability
Methanol (From Coal)	1.6	Good	Special Vehicles, Distribution

Based on favorable cost ratios (relative to gasoline), oil-shale-derived gasoline and diesel fuel share the most promise for near-term development, according to GM Research.

The Alternatives

According to the GM researchers, liquefied petroleum gas (LPG) and natural gas currently are cheaper than motor gasoline, but the price edge is expected to diminish as natural gas is decontrolled. However, these fuels may take on important applications in commercial fleets and for recreational vehicles.

"Because natural gas may become more plentiful and its sources are more secure, relative to petroleum, its use as a potential source of automotive fuel should be examined more carefully," say the GM researchers.

Due to production and conversion obstacles, fuels derived from biomass "don't show much promise," says GMR. Ethanol is 2.8 times more expensive to produce than gasoline on an equivalent energy basis [see the cost/BTU comparison above], and its use—particularly as a blend for gasoline to make gasohol—will continue only as long as government subsidies and tax exemptions "keep its price artificially depressed," according to the automaker.

Gasoline, diesel fuel and methanol derived from coal have little short-term potential, says GMR, because of cost, technology and distribution problems. But with vast reserves of coal, the U.S. prospects for a coal-derived fuels industry "are considered good" over the long term.

At present, say the GM researchers, gasoline and diesel fuel derived from oil shale appear to be the least expensive motor fuel alternative. With a cost ratio of only 1.2 (relative to gasoline), the technology for converting oil shale into fuels "is approaching maturity if the retorting [separating the oil from the rock] is accomplished above ground. Underground retorting is still under development," says GMR.

Although interest has been shown recently in eastern U.S. shale oil deposits, GMR notes that most attention has been paid to known Rocky Mountain reserves. The inhospitable location of these deposits are proving to be the greatest obstacle to developing them, says GMR, and will continue to be.

"The highest quality U.S. oil shales are located in arid, sparsely populated areas of the West and it appears that the environmental and social changes associated with developing a large oil shale industry will hinder its growth."

The GMR report concludes that sometime after the year 2000, growing worldwide demand will exceed traditional petroleum production capacity. And, alternative fuels planning and development will likely be the only means to fill the breach.

"The massive enterprises cannot sprout overnight, and cannot thrive with support that waxes or wanes with every change in political or economic climate," says GMR.

"They need nurturing and steady support. A prudent, long-range outlook should recognize this need."

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February, 1983 $4.00

More C-Stores, Fewer Stations Seen in '83

Why Some Midwest Jobbers Bought a Terminal

Now, Arco Tries Tuneups and High Gallonage

NPN

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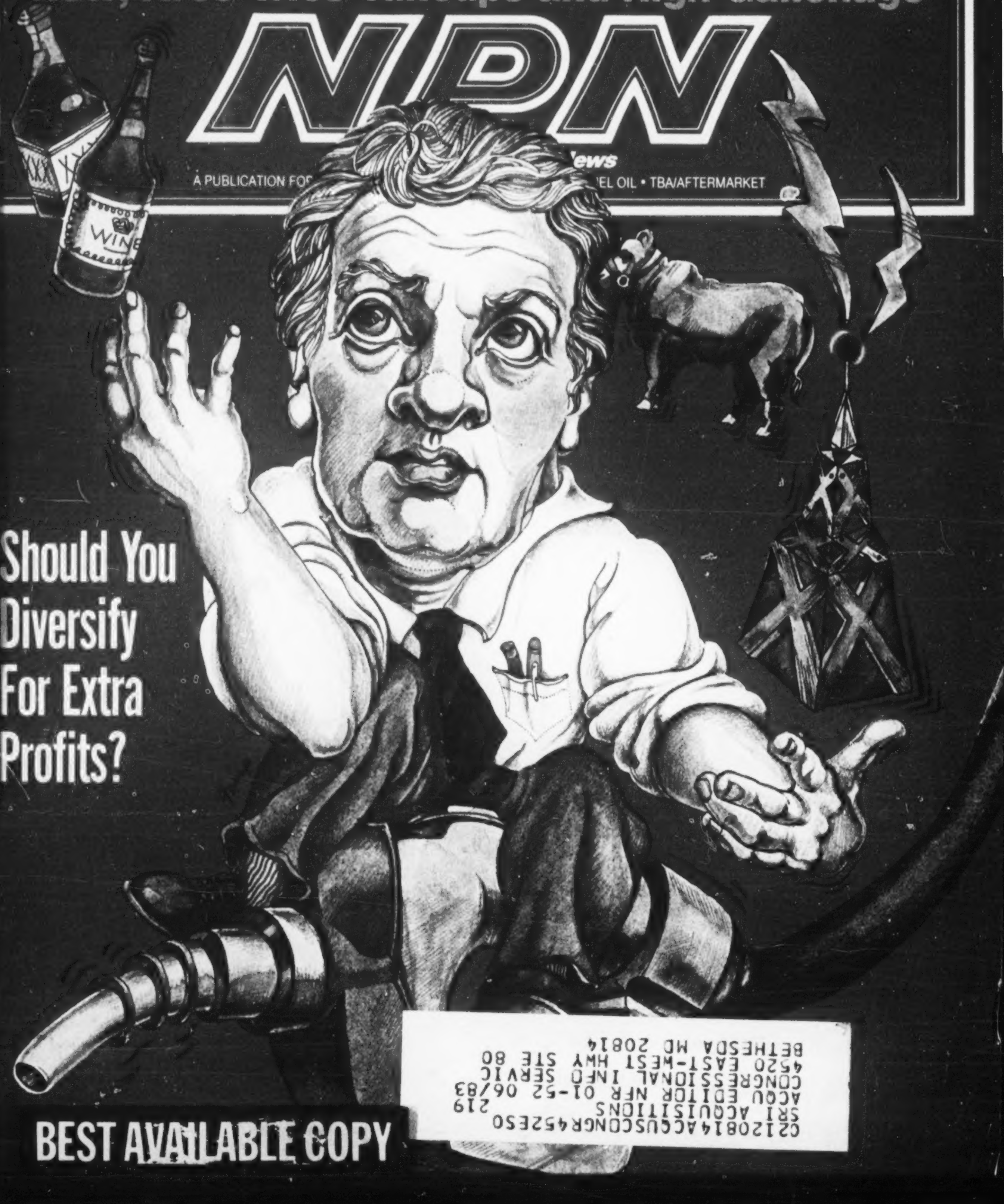

Should You Diversify For Extra Profits?

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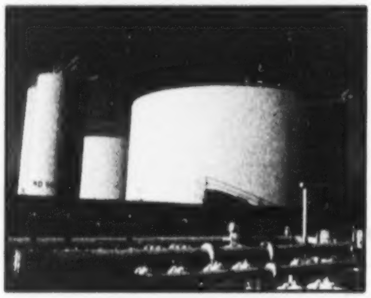
After two years of tough times and dynamic industry changes, oil jobbers today are rushing to diversify into a wide range of sideline activities to shore up their overall profits. Even successful marketers say they can't make it any longer on fuel margins alone. Page 36.

Cover illustration by Ann Fieza, Chicago.



For years, a number of Wisconsin jobbers have been plagued by a revolving door of product suppliers. Now, several of them have struck an inventive deal that reaches for the door stop. Together, they bought a 135,000-bbl. Shell terminal. Page 43.

ARCO
MP&G TUNE-UP
Self Serve
107 9/10
Unleaded Gasoline
Self Serve
103 9/10
ARCO Gasoline

Tuneup has always been a mainstay of the automotive service business, whether the trend leans toward specialty shops or service stations. Atlantic Richfield believes the pendulum could swing in the direction of any major oil company willing to commit itself to the expanding market. And that is why Arco opened up more than 60 "MP&G Tune-up" shops in Southern California. Page 46.

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• TRENDS

More and More Voices Speak For Varied Jobber Interests

When President Reagan lifted controls on the pricing and allocation of petroleum products two years ago, he unleashed a horde of changes on marketers. Some of the changes were highly visible and came about quickly. Others have been subtle and much slower to arrive, but in the long run, may have consequences just as great.

In the "real world" outside the nation's capital, the impact of what Congress or the White House or federal agencies do is far more important than how they do it. That makes it easy to overlook changes in the way the legislative or regulatory process works and accounts for much of the "surprise" that accompanies a new law or regulation.

There are many such changes afoot in Washington now, but one in particular could have a profound effect on the way jobbers are represented in Washington.

"Not too many years ago, when there was legislation affecting jobbers in the works, there was a single representative—the National Oil Jobbers Council," says a long time lobbyist for the industry. "For a variety of reasons, that isn't true any more."

At the recent round of hearings conducted by Rep. Berkley Bedell's House Small Business Subcommittee on Energy [NPN—Jan. '83, p26], there were no less than five organizations testifying on behalf of jobbers, including NOJC. And NOJC's testimony, although spearheaded by a statement delivered by 1983 president Robert Thornhill, was largely composed of individual statements from each of the council's member associations.

NOJC's strategy in submitting dozens of separate statements was clearly designed to underscore the widespread sentiment in the marketplace that "something must be done" to insure that independent marketers aren't muscled out of the competitive arena by the major integrated oil companies. But it was equally evident that there is no clearcut consensus about what should be done. While some associations called for prompt enactment of divorcement/divestiture legislation, others argued that Congress should not intervene in the market.

The division of opinion was not confined to state organizations either. During the House hearings, it was plain that branded jobbers are not in total accord about a remedy for today's market problems. Texaco jobbers felt strongly enough to offer their own testimony, as did Arco distributors.

The reason for the differences of opinion on a "best course" in Congesss is decontrol. While it solved many of the difficulties encountered by marketers as a result of arcane regulations, decontrol clearly has created other problems. The new ones, however, vary widely from state to state, brand to brand. Free to adopt new marketing strategies for the first time in nearly a decade, the major oil companies have done so. Where Texaco opted for a 3% credit card surcharge, Arco decided to eliminate credit cards and others now offer discounts for cash. In some states, the majors are increasing their marketing presence. In others, they're pulling out. In each case, marketers are affected differently and a different "solution" is called for.

Why is it important whether there is "one voice" or many? It is clear that Congress is amenable to providing some kind of help. Except for patriotism, there probably isn't a more popular cause on Capitol Hill than small business. But it also is true that unless all concerned are in agreement about a course of action, congressmen would rather do nothing, in most cases, than risk offending those who oppose a legislative proposal.

The work on some kind of compromise legislation already is under way. A coalition of marketers, in fact, is trying to convince Congress to enact a "Bill of Rights," which, among other things, would provide collective bargaining privileges to jobbers in their dealings with suppliers [see page 32]. Those responsible for putting together the package concede that it is a fragile creature. How it is shaped—and whether it is adopted by Congress—will not be decided by a single organization speaking for jobbers.

State marketer organizations and individual branded jobber groups will have a great deal of power over the outcome of this effort and—more importantly—over those that will follow.

In fact, it is likely, given the Reagan administration's disdain for special interest legislation and its preference for "free market" forces—not to mention the lobbying power of the major oil firms—that individual states will be more able to help marketers than Congress.

The winners and losers in all of this probably will be determined by the ability of jobbers with different problems to cooperate, and by the willingness and ability of state organizations and brand associations to adapt to a legislative and regulatory system that no longer works the way it once did.

—Tom Goldsmith

• MARKETPLACE AT A GLANCE

AVERAGE GASOLINE PRICES IN THE U.S. (¢ per gal.)

NOVEMBER	Gasoline (All types)	Leaded Regular	Unleaded Regular	Leaded Premium
U.S. City Avg.	$1.268	$1.207	$1.283	$1.412
Regions:				
Northeast	1.288	1.230	1.289	NA
North Central	1.267	1.222	1.289	NA
South	1.252	1.188	1.266	NA
West	1.272	1.193	1.290	1.420

Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

STOCKS (Add 000 bbl.)

	12/31/82	1/1/82
Gasoline (total)	239,996	252,179
Gasoline (unleaded*)	96,861	94,404
Kerosine **	42,973	43,450
Distillates	179,869	190,339
Residual	67,187	80,994

**Included in gasoline total.*

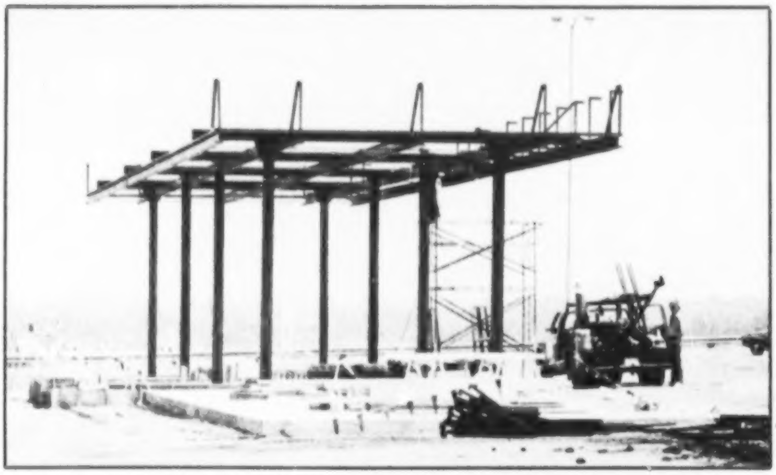
***Includes jet fuel.*

Source: American Petroleum Institute.

NPN

NATIONAL PETROLEUM NEWS FEBRUARY, 1983

Station Population Falls 4.3% Last Year; Gross Sales Rise to $107-Billion, Up 4.8%



Built to move 200,000 gal. a month and more, individual 'volume' units are replacing four or five smaller stations at a time, accounting for some of the population tailspin.

There is good news and bad news in the government's annual report on the U.S. service station population. The bad news is that, as expected, the population continued to decline in 1982. The good news is that the outlook for 1983, while still on the negative side, is not all that bad.

A 1981/1982 recap and the latest projections for 1983 were released at the end of January by the Bureau of Industrial Economics of the U.S. Department of Commerce. Between the U.S. Census Bureau's quinquennial nose counts, these numbers are considered the most reliable barometer of trends and totals in the industry.

The 1982 service station population was estimated to be 144,690 outlets. The decline in numbers from 1981's 151,253 stations was steeper than had been projected. In January of 1982, the bureau forecast that the population would fall no lower than 147,000 by the end of the year.

Thus, more than 6,500 service stations dropped out of the picture during the year just ended, for a 4.3% decline.

Although the government gave no reason for the continued decline, it can be assumed that supplier withdrawals, credit card finances, inflation and recession, glutted markets, sagging prices and miserable margins all contributed to the problem.

The peak year for service stations was 1972, when 226,500 outlets were counted. So, with only 144,690 outlets in 1982, more than 81,000 service stations have disappeared in the last 10 years—a decline of 36%.

The outlook for 1983, while still glum, is better. The federal government anticipates that the population shrinkage will slow, and that by December 31, there will be about 139,250 service stations—about 5,400 less than in 1982.

There are several things to remember, however, when interpreting the population figures.

First, as many of these stations disappear, they are replaced by units which pump more gasoline. Smaller stations are being "traded in" on bigger volume outlets. In other words, four or five 10,000 to 25,000-gal. a month stations may drop by the wayside, but they are being replaced by one 200,000-gal. a month pumper.

Second, these totals reflect only those units defined as "service stations" by the Census Bureau—stations which generate more than 50% of their income from the sale of petroleum products and services.

In real life, there are thousands of convenience stores, garages, mass merchandisers and other places that sell gasoline, but do not fit the "service station" definition.

It is hard—if not impossible—to come up with an accurate count of those additional outlets simply because no one has ever found a way to define, find and tally them.

Convenience store sources estimate their world to be 35,000 to 40,000 units, about half of which (approximately 17,500) sold gasoline in 1982. When the C-store numbers are added in, the gasoline station population increases to at least 162,000 outlets in 1982 and to 157,000 or more in 1983.

Industry experts also assume there are at least 10,000 more gasoline dispensers at mass merchandisers like Sears Roebuck, and at garages, fleet operations, and rural co-ops.

Here again, the population total could be upgraded—to around 172,000 outlets in 1982 and about 167,000 in 1983.

So, overall, the station population, while shrinking constantly, is not really shrinking as fast as it seems.

The bureau's 1982 and 1983 numbers bring good news in the dollar department: Gross sales are increasing, and the bureau estimates industry sales were $106.5-billion in 1982 (up from $101.6-billion in '81) and will be 114.5-billion for 1983.

However, early in 1982, the government predicted the 1982 sales total would be higher, perhaps $117.7-billion, but the continuing decline in gallonage changed that.

Copies of the government's service station report, entitled "Franchising in the Economy 1981-1983," are available from the Department of Commerce.

Service Station Population Dips Again

	1983	1982	1981	Percent Changes 1982-83	Percent Changes 1981-82
Number of establishments	139,250	144,690	151,250	−3.8%	−4.3%
Company-owned	25,065	26,044	27,225	−3.8	−4.3
Franchisee-owned	114,185	118,646	124,025	−3.8	−4.3
Total sales of products and services (Add 000,000)	$114,534	$106,544	$101,665	7.5	4.8
Company-owned	20,616	19,178	18,300	7.5	4.8
Franchisee-owned	93,918	87,366	83,365	7.5	4.8

Source: Bureau of Industrial Economics, U.S. Department of Commerce, "Franchising in the Economy 1981-1983."

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C-Store Parade Rained On, But Not Out, in '82

The recession also had its impact on growth in the convenience store world in 1982, according to the Commerce Department's Bureau of Industrial Economics [see preceding story]. Growth is continuing but at a much slower rate than projected just one year ago.

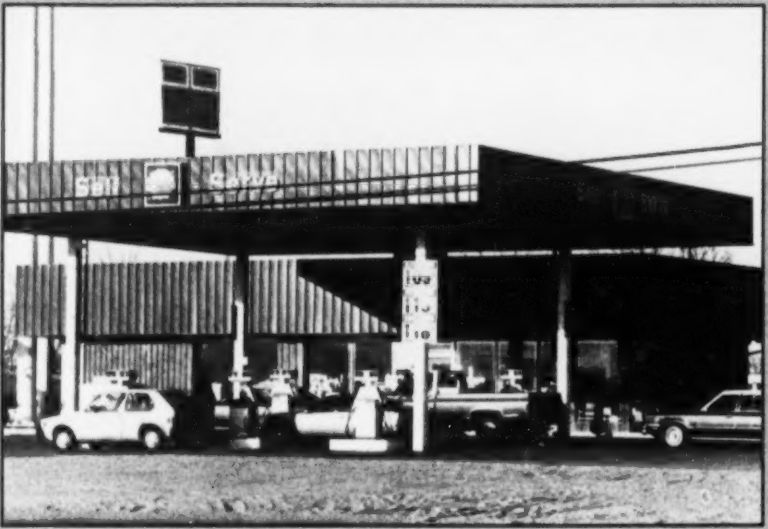
For example, the population of franchised stores had been expected to hit a total of 17,312 as of last Dec. 31. Instead, the total was 16,256 stores—about 1,000 less than had been forecast.

The projection for 1983 sounds like 1982 all over again. The bureau predicts that the population will be 17,256 next December.

A thing to remember in dealing with the C-store report is that the government bureau counts and/or estimates only those in the franchise areas. It does not give consideration to thousands of independents, "Mom and Pops" and so on. Most C-store authorities estimate the industry population between 35,000 and 40,000. Thus the government report embraces only about half of the facilities in business.

Dollar sales are up fantastically for the franchise companies, expected in 1983 to top $10-billion for the first time. This is 10% more than in 1982 which was 10% more than in 1981.

California and Texas are neck and neck in C-store totals. Each, according to the government report, had just under 2,000 units. Florida is third with about 1,400. Four states were said to have no convenience stores at all—Alaska, South Dakota, Vermont and Wyoming.



One C-store added in 1982 was this converted service station, rebuilt by Missouri jobber Paul Shultz (see page 40). The government doesn't include this unit in its C-store tally.

C-Store Growth Flattens Out in 1982-83

	1983	1982	1981	Percent Changes 1982-83	Percent Changes 1981-82
Total number of establishments	17,276	16,256	15,524	6.3	4.7
Company-owned	10,205	9,741	9,356	4.8	4.1
Franchisee-owned	7,071	6,515	6,168	8.5	5.6
Total sales of products and services (Add $000,000)	10,168	9,252	8,406	9.9	10.1
Company-owned	5,847	5,359	4,897	9.1	9.4
Franchisee-owned	4,320	3,893	3,509	11.0	11.0

Source: Bureau of Industrial Economics, U.S. Department of Commerce, "Franchising in the Economy 1981-1983."

Amoco Jobbers Share $16-Million in Refunds

In coming months, Department of Energy refunds from an escrow account that had swelled to $100-million will mean an average $7,500 check for each Amoco jobber in the country.

DOE has finally come up with a method for disbursing the funds put aside when Standard Oil of Indiana agreed to pay $72-million to settle allegations that it violated price and allocation regulations from March 1973 through December 1979. The $72-million settlement, drawing interest, is now more than $100-million.

The refund formula adopted by DOE allocates about $15.7-million to jobber claims, or about 34% of the $46.17-million set aside to handle motor fuel claims. The final formula is slightly more favorable than the one proposed by DOE last August and is considered a victory for Amoco jobbers, as well as jobbers involved in other, unsettled overcharge cases. The distribution scheme is an important milestone, according to Daniel Autry, chairman of the National Oil Jobbers Council's (NOJC) Amoco brand committee.

Autry says the refund formula represents DOE recognition that jobbers and other "downstream" purchasers were injured by Amoco overcharges, and makes the presumption that they should be compensated without having to prove injury.

"The retention of these presumptions was, I believe, our greatest success," says Autry. "It is difficult to overestimate the precedential impact of this decision in future refund cases."

Refunds under the distribution procedure set up by DOE's Office of Hearings and Appeals will not be automatic, however. Amoco jobbers will be required to submit an application, either individually or through the NOJC Amoco brand committee. The DOE office says normal applications will be simple and should not require professional assistance.

Autry encourages Amoco jobbers to apply for their refunds through the brand committee, pointing out that "in most cases, we already have everything we need to file claims for them."

This assumes that the applicant is willing to accept a refund based on the formula devised by DOE. The formula would award each jobber $304.30 for each 1-million gal. of gasoline purchased from Amoco, plus $358 for each 1-million gal. of Amoco gasoline sold at retail, and $340.10 for each 1-million gal. of middle distillate (heating oil, kerosine and diesel fuel) purchased from Amoco. Eligible purchases and sales are those from the period beginning March 1, 1973 and ending Dec. 31, 1979.

Those who can prove that Amoco violations of price regulations caused them more harm than the DOE formula covers can file for larger refunds.

54600-1

March, 1983 $4.00

Refund Bonanza: Will You Get Your Share?

How Multi-Unit Dealer Makes Full-Serve Pay

New Motor Oil Packaging Ideas Emerge

NPN

National Petroleum News

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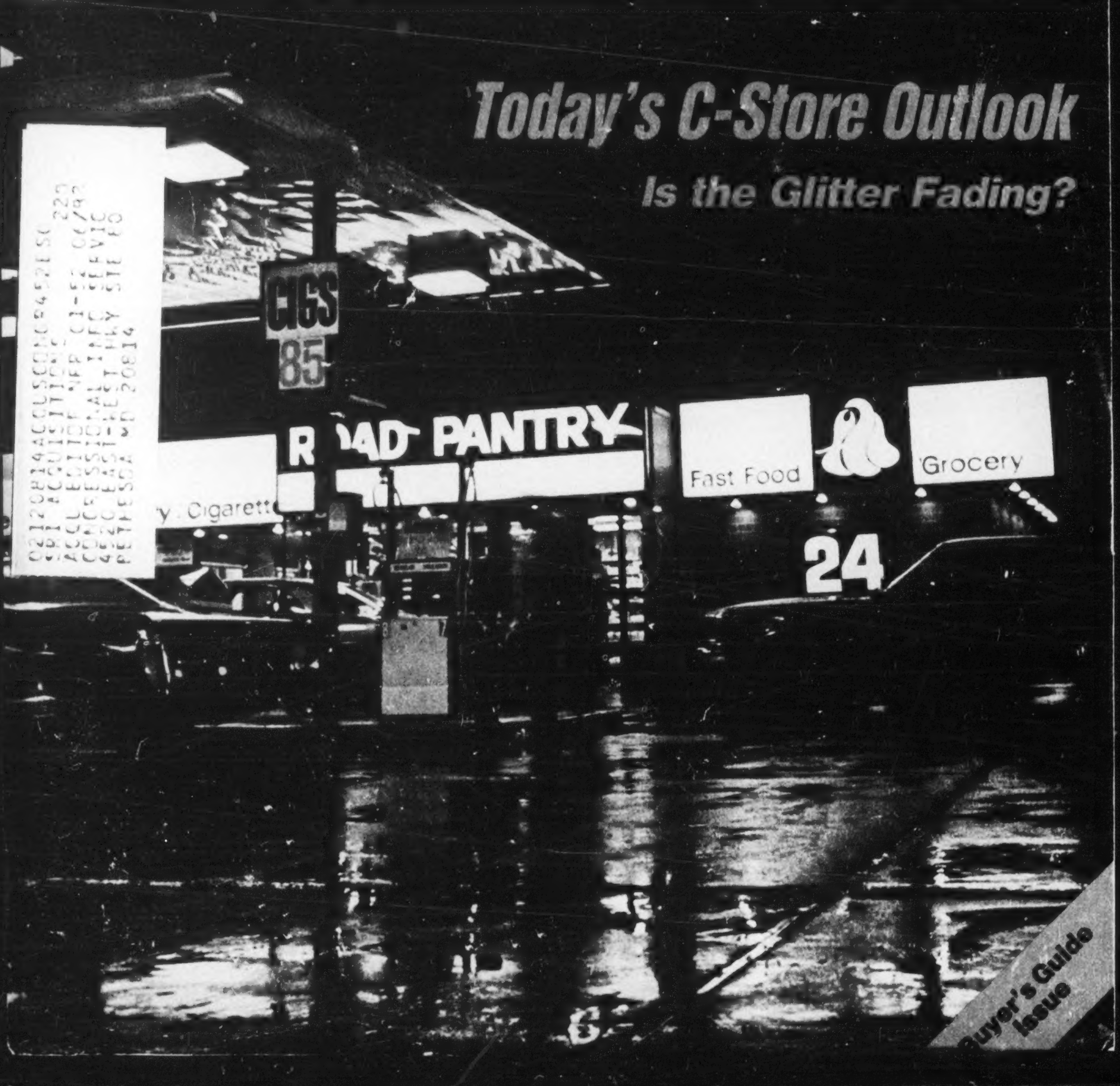
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Today's C-Store Outlook

Is the Glitter Fading?

Buyer's Guide Issue

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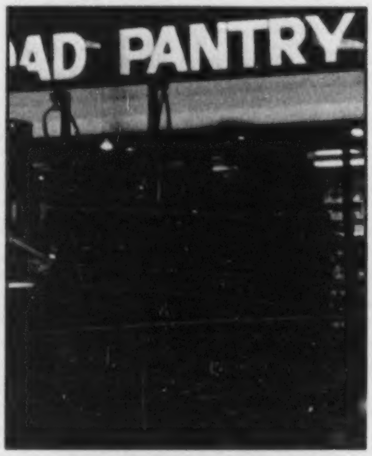
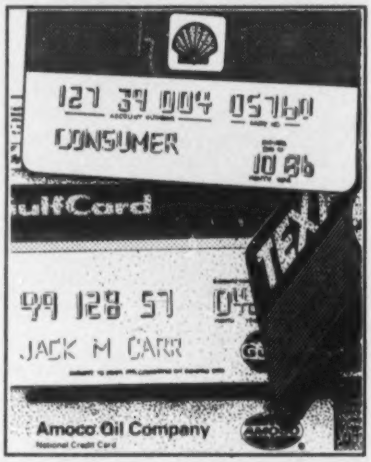


One of the hottest diversification trends ever to hit the gasoline and convenience store industries—the self-serve pumper/convenience store tie-in—is still one of the lowest-cost methods of doing business for both sides. Page 66.



If the companies involved in the credit card wars are to be believed, it doesn't seem to matter which tactics the majors used during the past year. The conclusion in the current lull is that no company lost much, and many made big gains. Page 35.

When you have $1.8-million invested in two brand-new retail fuel and food complexes at 14.8% interest on a 15-year payout, the last thing you need is a labor strike. Especially when the strike is against your supplier. Page 48.

• TRENDS

Gasohol on the Ascendency As an Important Motor Fuel

Gasohol came of age as a motor fuel in the United States in 1982, and with an increase in the federal excise-tax exemption from 4¢ gal. to 5¢ on April 1, it seems likely to break new sales records in 1983 and beyond.

U.S. Department of Transportation (DOT) data, which are incomplete anyway, don't go to the end of 1982. However, gasohol sales during the first three quarters of 1982 were 1,148,880,000 gal., up 133% from the same period a year earlier, DOT reports. Other estimates in the ethanol trade put the alcohol-blended-fuels total for the year between 2.2-billion and 2.5-billion gal.

Roger Smith, editor of *Alcohol Week*, a newsletter, thinks 2.2-billion to 2.3-billion is about right, comparing that to 850-million gal. in gasohol sales in 1981. On this basis, gasohol sales jumped 2.6 times (165%) in one year. Smith believes gasohol sales could double or triple again in 1983, although he emphasizes that it depends on how much states cut their own exemptions as an offset. Revenue losses are putting a lot of pressure on states to do so [NPN—Feb. '83, p30].

Despite some whittling away of state exemptions, it's not considered likely that the combined effect of state actions will dilute or totally wash the 1¢ federal exemption increase. *Lundberg Letter* has calculated that the weighted national average state tax exemption (or forgiveness) was 2.77¢ gal. at the end of 1982.

With the 1¢ federal increase, therefore, gasohol gets a boost, after doing extraordinarily well without it last year.

Gasohol's rapid growth is, in a way, its worst enemy. "Once the market penetration gets up too high and the revenue losses get too big, counterforces set in to try to bring them back down again," Smith says.

But the federal exemption is effective through 1992—a whole decade during which ethanol and gasohol marketers can try to figure out ways to rely on state exemptions less and less.

Gasohol has rapidly become a significant motor fuel, with a U.S. market share of 2.2% to 2.5% of total gasoline sales last year. Premium leaded gasoline now amounts to less than 1%, premium unleaded about 11%.

In states where exemptions are large, gasohol's share of the gasoline market is considerably greater. Here are shares for the first nine months of 1982: Nebraska 9.3%, Oklahoma 6.1%, California 4.2%, Michigan 3.8% and Iowa 3.5%. Not bad for a product that many marketers thought would end up on the endangered list when gasoline supplies became plentiful again after the 1979 shortage.

The question might arise whether U.S. ethanol producers have enough production capacity to handle the growing gasohol demand, particularly since the U.S. tariff on imported ethanol jumped to 40¢ gal. Jan. 1 from 20¢, and will be bumped up to 50¢ gal. April 1.

Ethanol imports, mostly from Brazil, "flooded" the U.S. market in late 1982, *Alcohol Week's* Smith reports, contributing to a decline in ethanol prices. Certain large Brazilian ethanol importers consider it highly unlikely that Brazil will cut prices sufficiently to offset a 50¢-gal. tariff, and that therefore Brazilian and other overseas' sources of ethanol are expected to dry up.

The probability is that U.S. capacity is sufficient to meet gasohol demand even if it grows as much in 1983 as it did in 1982. "With the capacity that's come on line the last few months [of 1982], production is probably enough to deliver at a rate of 300- to 400-million gal. of ethanol, or 3- to 4-billion gal. of gasohol," Smith says.

There's a hitch in calculations of this sort, however. Ethanol production is described as very flexible because most plants that make it use feed-grade corn and can swing readily to making high fructose corn syrup if the ethanol market doesn't want it all. "So ADM [Archer Daniels Midland, the principal U.S. ethanol producer] allegedly has 220-million gal. of capacity, but they may be using little of it, depending on the market," Smith says.

Such leverage would seem to be an opportunity for ethanol producers to limit supply and raise prices. But the economics of gasohol, based as they are on the ratio of 10% ethanol to 90% unleaded gasoline, don't leave much room for that.

"Ethanol producers know what it takes to keep the market from going to unleaded," an ethanol distributor says. "They have to watch gasoline rack prices like a hawk. As the gasoline price goes down, ethanol prices have to go down or gasohol is driven out of the market."

So long as ethanol makers continue to have the will to supply the gasohol market, as they now do, they'll do what's necessary to keep gasohol competitive. Marketers believe it would take a severe turn in economic circumstances to push ethanol producers out of the motor fuel market.

—Mark Emond

• MARKETPLACE AT A GLANCE

AVERAGE GASOLINE PRICES IN THE U.S. (¢ per gal.)

DECEMBER	Gasoline (All types)	Leaded Regular	Unleaded Regular	Leaded Premium
U.S. City Avg.	$1.244	$1.181	$1.260	$1.371
Regions:				
Northeast	1.278	1.219	1.280	NA
North Central	1.247	1.202	1.269	NA
South	1.234	1.167	1.248	NA
West	1.223	1.141	1.243	1.374

Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

STOCKS (Add 000 bbl.)

	1/28/83	1/29/82
Gasoline (total)	247,287	258,493
Gasoline (unleaded*)	99,368	100,451
Kerosine **	33,451	31,231
Distillates	165,546	166,663
Residual	61,519	75,824

**Included in gasoline total.*

***Jet kero only; totals no longer kept by API and DOE.*

Source: American Petroleum Institute.

By Mark Emond

WEST COAST

Barring a Gasoline Price Collapse, Gasohol Should Maintain its Growth

Gasohol sales in most West Coast states rose spectacularly in 1982, and given the additional federal tax exemption beginning next month, could do so again this year.

Sales in some states almost quadrupled during the first nine months of 1982 over the same period a year earlier, latest U.S. Department of Transportation (DOT) figures show. As steeply as sales were climbing, growth could be as much as sixfold when annual totals are tabulated.

There are gasohol sales in each of the five states in this region — Arizona, California, Nevada, Oregon and Washington — but 97% of the regional total was in California during the first three quarters of last year. Gasohol sales during that period were as follows (shown in parentheses is the percent change from the same period a year ago):

Arizona, 4,316,000 gal. (+297%); **California**, 315,075,000 gal. (+291%); **Nevada**, 767,000 gal. (+169%); **Washington**, 5,439,000 gal. (−31%). Gasohol sales in **Oregon** are not reported.

In the ethanol trade, U.S. gasohol sales are estimated to have totaled 2.2-billion gal. in 1982, representing 2.2% of gasoline sales. [For a national report on the gasohol trend, see page 12.]

The term "gasohol" is little used in marketing now, lacking in most places the popularity it once had. It is ordinarily called unleaded with ethanol, usually regular but sometimes premium. Whatever the name, it's a mixture of 90% gasoline and 10% ethanol (ethyl alcohol).

The addition of 10% ethanol boosts octane about three numbers, ethanol producers say, permitting a blender to start with a less expensive unleaded subregular if available, or providing extra octanes above the regular.

Because ethanol costs approximately twice as much as gasoline, it must overcome the cost handicap by means of a tax exemption or higher price. Tax exemption is by far the most important means. The federal exemption is 4¢ gal., rising to 5¢ April 1. Some states provide additional exemption.

Gasohol marketing is most successful in states with the greatest exemption, understandably. But despite the widespread belief that gasohol can't compete unless it has more than a 4¢ federal exemption, some marketers are selling gasohol profitably where there is no state exemption at all.

A case in point is Burns Bros., a chain of six truckstops based in Portland, Ore. There's no state exemption in Oregon, but Burns Bros. reports 20% of its gasoline sales are of "Burnsohol," which the company has been marketing for three years.

Selling the product as a super unleaded premium, Burns Bros. usually prices it 5¢ to 6¢ gal. above regular unleaded, but sometimes cuts 5¢ to 6¢ below regular unleaded for promotional reasons, reports Steve Anderson, operations manager.

"We have a good customer base for Burnsohol," says Anderson. "A lot of people use it and like it. We ballyhooed the hell out of it originally . . . the governor bought the first gallon . . . and stuff like that. When we run specials, we retain some of the customers."

Arizona's dramatic gasohol sales growth in 1982 came with no state exemption. The state exemption in Washington in 1982 was 1.2¢ gal., in Nevada 1¢.

But California, with its 4¢-gal. state sales-tax exemption in 1982, is where most of the action was. Gasohol is a big and growing business there. California leads all other states in gasohol sales. During the first three quarters of 1982, gasohol represented 4.2% of the state's 7.6-billion gal. in gasoline sales.

The biggest gasohol marketers in California, according to state records, are Beacon, an independent refiner/marketer, and Target, World, and Armour, independent marketers, in that order. The biggest ethanol marketers are Beacon and Tropicana, an independent.

The state exemption was cut to 3¢ gal. on Jan. 1, causing a temporary cramp, but only until the additional 1¢-gal. federal exemption comes to the rescue April 1. At that time, gasohol will be on the same exemption footing it was in 1982 when it did so well.

A growing problem that confronts gasohol everywhere in the country is the drop in wholesale gasoline prices. As gasoline prices fall, ethanol becomes less economic to blend. Because of the fixed ratio of ethanol to gasoline, the economics of gasohol are based on simple and inescapable arithmetic.

Gasohol marketers will be pleased to know that ethanol suppliers reportedly want to keep the California business even if it means increasing rebates. The practice has been for major ethanol suppliers to rebate whatever amount is necessary to keep gasohol competitive. Local ethanol sellers pass the rebate through to gasohol marketers as a matter of necessity.

The table below shows how the tax exemption is offset at various gasoline and ethanol price levels. If the blended price of gasohol exceeds, equals, or even approaches the exemption too closely, marketers have little or no incentive to sell it.

For example, say the rack price of regular unleaded is 90¢ gal., and ethanol is priced at $1.50 gal. Nine-tenths of a gal.

What State and Federal Tax Exemptions Must Overcome for Gasohol to Compete

Reg. Unleaded Rack, ¢/gal.	Ethanol rack price (¢/gal.) 170	165	160	155	150	145	140
70	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
75	9.5	[illegible]	8.5	8	7.5	7	6.5
80	9	8.5	[illegible]	7.5	7	6.5	6
85	8.5	8	7.5	[illegible]	6.5	6	5.5
90	8	7.5	7	6.5	[illegible]	5.5	[illegible]
95	7.5	7	6.5	6	5.5	[illegible]	4.5
100	7	6.5	6	5.5	5	4.5	[illegible]

The figures above in colored units represent the difference between the price of blended gasohol and the price of unleaded gasoline at various gasoline and ethanol price levels. If the numbers exceed or equal the tax exemption, there may be no incentive to sell gasohol.

of unleaded is 81¢, one-tenth of a gal. of ethanol is 15¢, for a total of 96¢. The current 7¢-gal. gasohol exemption in California, of which 4¢ is federal and 3¢ state, lowers the gasohol price to 89¢. Therefore, there is a 1¢-gal. incentive to market it in competition with 90¢ regular unleaded. This ignores any blending or separate storage costs.

In the marketplace, the incentive is often greater than 1¢ because some marketers sell gasohol as premium unleaded and charge a higher price for it. An 87-octane regular unleaded may become a 90-octane "premium" gasohol. Or a substandard and presumably cheaper 84-octane unleaded may become a standard 87-octane gasohol. Either way, there is a basis for obtaining a somewhat higher margin on gasohol in these circumstances.

Posted prices of ethanol quoted in trade papers aren't the real prices unless supply is very tight. For example, although quoted West Coast prices were $1.65 to $1.70 gal. recently, some actual prices in California were $1.45 gal., trade sources say.

As gasoline prices continue to fall, how much additional rebating will ethanol producers be willing to offer?

A California ethanol marketer figures freight from a Midwest plant amounts to 17¢ gal., terminaling 3¢, profit 1¢, for a cost of 21¢ gal., plus truckloading by or to a gasohol marketer. On this basis, $1.45 ethanol goes back to $1.24 at the plant.

"The producers are big companies with big plants, and they're in the position of having to keep gasohol competitive," the marketer says. "They say they want to stay in the California market, and they've been doing it. Gasoline prices are falling, and the pressure is on."

Wickland puts coal facility on hold

Wickland Oil Co.'s 500,000-bbl. deepwater terminal in Selby, Calif., in the San Francisco Bay area, has been operating for some time, but plans for a coal transhipment facility there were "put on hold for a period of time" in hopes the regulatory climate will improve."

"We were hoping that with the new administration in California some of the regulatory procedures would be simplified," says Roy Wickland, president of Wickland Oil Terminals, Sacramento, "and it appears that might happen. I think in the next 12 months we'll be in a better position to look at the options available to us."

The size of the proposed coal terminal has been scaled down from 15-million tons a year [NPN—Oct. '81, p16] to perhaps 5-million tons because of weak crude oil prices worldwide.

"The expected demand for coal in the Far East is not what we thought it would be," Wickland explains. "Unless crude prices take off again, the demand for Western coal will be smaller than expected."

Other possible uses are also being considered, short and long term, he says.

Meanwhile, plans are going ahead to build a loading rack and some additional tankage this year.

Regulations and weak demand have stalled Wickland Oil's coal terminal.

Good or bad cents

Efforts of creditors to keep the struggling "Good Cents" chain of about 55 gasoline stations operating long enough for a long line of creditors to get paid have failed. The company, in the hands of its creditors, filed for protection under Chapter 11 of the federal bankruptcy law.

The Glendale private brander Robert J. Nassaney, who built the chain in a couple of years mostly from marginal and closed stations [NPN—Oct. '82, p17], is the "debtor in possession," but he's "not getting a nickel out of the business," a creditor says.

Originally some creditors believed that if Good Cents was properly managed and liquidated there might be enough assets to pay off the bills and leave something for Nassaney. But, a creditor reports, one of the creditors kept attacking and forced the rest into bankruptcy protection.

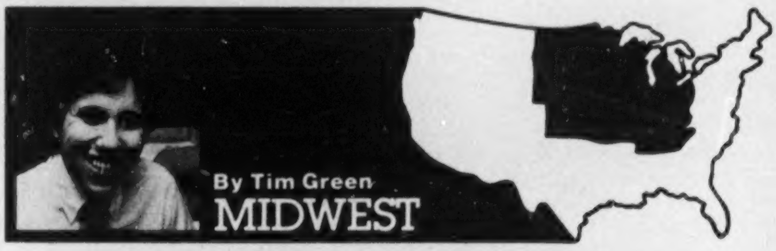
With about 30 stations left, the company was averaging 35,000 gal. a day on a 17¢-gal. average margin and "holding up their head," a creditor says, but with frequent attacks on assets, it became a scramble of attorneys.

"They're going to come out badly," a creditor says. "There are more and more attorneys, and there are all of those fees to be paid. It's pathetic."

What went wrong in the first place? "The company was losing $10,000 to $12,000 a day," a creditor states. "It was a product of the seventies.

"Under circumstances of the times, a marketer could make $100,000 a year with one station if he was smart and applied himself. Some guys invested it properly and bought other properties. Some guys just threw it away," the marketer says.

"All of a sudden things get tough, and you don't know when to get tough with them. There are going to be more of these [failures], and you can pretty much figure out who will be around. They're the well-financed, experienced guys who have their feet on the ground. They've been through this kind of market before. They know how to do it."



In a Position to Know, Jobber Reps Say Tough Times Are Here Alright

Jobbers in two states heavily dependent on single industries—Michigan on autos and Nebraska on farming—are grappling with demand declines as steep as any in the country today. But tales of "hard times" are being told all over the Midwest.

Poorer and poorer markets are causing jobbers and their representatives to worry more and push harder for corrective measures. It's the association executives who hear jobber gripes, and listening to the guys who listen to the jobbers can be enlightening:

- **Jerry Everett,** Northwest Petroleum Assn. executive director:

"Here in Minnesota and in North Dakota, the market is the worst I've ever seen—and it keeps getting worse. I'm flabbergasted. I see the price one week, see it 2¢ lower the next week, and 2¢ lower the week after that. It just keeps falling.

"I think the situation will keep getting worse. The dealers all have gallonage fever. They always have, and they always will. They can't let the guy down the street

1982 Convenience-Gasoline Sales Up 21.4%

For the seventh year in a row, retail gasoline operations in the convenience store industry have proved to be such a dynamic force that they may one day dominate the small-food-store universe.

This is becoming more apparent with each annual report of John F. Roscoe's "Dollars Per Day Survey," the latest of which was issued in mid-February. Roscoe is a C-store operator himself, based in Concord, Calif. His chain includes 160 stores in five western states [NPN—Jan. '83, p22].

Technically, Roscoe's survey embraces only 11 publicly owned chains. But because the 12,400 stores owned by the chains represent almost one-third of the industry's presumed population of 39,000, they are considered to be a good indicator.

Roscoe's 1982 survey shows that 5,799 of the 12,400 stores, or 46.76%, marketed gasoline in the preceding 12 months. This is an increase of 2.31% over 1981 totals. Significantly, only 21.16% of the chains' stores retailed gasoline in 1975; thus this percentage has more than doubled in the short space of seven years [see table on facing page].

The 11 chains sold 2,112,975,731 gal. of gasoline in 1981 and first-half '82, worth a grand retail total of $2,603,083,648. This is an increase of 12% in gallonage over 1981, and a 21.4% rise in sales dollars.

Gallonage and margin data were not too plentiful in Roscoe's 1982 survey but here are some highlights on the four most profitable companies:

- **Shop & Go:** Volume up 15.4% over 1981 with a rental figure of 5.7¢ gal. pumped, up 1¢ gal. over the preceding year.
- **Circle K:** Volume up 15.6% but margins were lower. Specific figures were not given but the annual reports indicated margins ranged from 8.9¢ down to 4.7¢ in 1982, versus 12.4¢ to 6.5¢ in 1981.
- **Southland:** Volume up 10.3% but no margin figures were given.
- **National Convenience:** Volume up 3% with the average margin at 7.5¢ gal., up 1.7¢ gal. from the previous report.

The volume increases are in sharp contrast to recent trends for traditional oil marketers where shrinking demand has cut heavily into growth patterns and annual statistics. This prompted Roscoe to note in an editorial commentary, "Ask not for whom the bell tolls, the bell tolls for the 147,000 gasoline station operators who derive more than half of their income from gasoline sales."

Among the 11 chains, Dallas-based Southland Corp. ranked No. 1 in the number of stores (7,002); the number of gasoline units (2,517); total gallonage (956-million gal.), and retail dollars ($1.2-billion). Light years away was second-place Munford, Atlanta, Ga., with $335-million in sales. Munford was the only one of the 11 chains to generate fewer sales dollars in 1982 than 1981, falling 5.8%, according to Roscoe.

He notes that 47% of the stores owned by the 11 chains market gasoline. If that percentage is projected to the generally agreed-upon C-store population of about 39,000, more than 18,000 C-stores are selling gasoline nationwide, he concludes. He also theorizes, on the same basis, that C-stores now control 6.98% of the national market.

According to Roscoe's report, gross sales for the 11 chains in 1982 totaled $8.1-billion, of which $5.5-billion was for food and $2.6-billion for gasoline. The year-ago figures were $7.0-billion overall, with $4.8-billion coming from groceries and $2.1-billion from gasoline. Thus, total sales were up 30.7% in 1982, with groceries gaining 13.5% and gasoline dollars up 21.4%.

(Gasoline aside, one of the primary aims of the annual Roscoe report is to rank the chains in terms of their profitability—on a dollars-per-day basis. His formula shows that Shop & Go, of Mango, Fla., was the most profitable chain for the second consecutive year, and for the fourth time in 12 years. It was followed by Circle K, Southland, National Convenience and Lil' Champ among the top five.)

Roscoe noted in his commentary that the C-store industry is experiencing an unheaval similar to what gasoline marketing has seen in recent years.

"A few years ago, most of the companies in the industry used a cookie-cutter approach and turned out stores without much concern for the requirements of the locale.

1982 Gasoline Rankings, Top 11 Chains

Company	1981 Survey Ranking	1982 Dollar Sales	% Chng. Vs. Year Ago
Southland	1	$1,195,400,000	30.1%
Munford	2	334,950,000	(5.8)
Circle K	3	283,400,000	24.8
National Convenience	5	255,470,000	43.3
Conna	4	190,139,000	4.4
Dillon	6	114,892,000	15.1
Sunshine Jr.	7	85,875,774	28.2
Shop & Go	9	60,270,000	18.9
Li'l General	8	59,236,625	8.9
Lil' Champ	10	13,794,124	20.8
Mini Mart	11	9,656,125	91.3
1982 Total		$2,603,083,648	19.1%
1981 Total		$2,144,571,343	21.4%

Source: 12th annual Dollars-Per-Day Survey, John F. Roscoe.

Gasoline Units Controlled by Convenience Store Chains

1982 Profit Ranking	Company	No. of Stores	No. of Gasoline Units	% with Gasoline	Gasoline Units Added in Year	No. of Stores Added in Year
1	Shop & Go	405	268	66%	3	(7)
2	Circle K	1,211	780	64	27	17
3	Southland	7,002	2,517	36	271	107
4	National Convenience	922	585	63	107	90
5	Lil' Champ	162	66	41	22	14
6	Dillon	349	250	72	8	11
7	Li'l General	460	208	45	4	(14)
8	Mini Mart	114	38	33	9	2
9	Sunshine Jr.	354	307	87	19	1
10	Conna	434	309	71	(5)	18
11	Munford	987	471	48	(72)	(132)
Totals		12,400	5,799	47%	393	107

Source: 12th annual Dollars-Per-Day Survey, John F. Roscoe.

"Changes in economic conditions and consumer awareness of these changes have forced the companies to re-evaluate their operating practices and expansion plans.

"Almost everyone now believes the operating environment has changed. Some operators accept the facts but are unclear about the solution. Some believe their troubles are caused by general economic conditions and that things will improve once the good old days return.

"Personally, I believe this approach is unjustified. Humpty Dumpty has fallen off the wall, and we'll never put Humpty Dumpty together again."

What the industry must do now is "shuck off the past," he said.

The chains, he added, now know they can't afford to operate old, run-down, low-volume, unprofitable stores. Many of these have been closed. More importantly, the successful chains seem to be replacing these stores with new stores that are generating higher sales volumes.

All this may sound familiar to gasoline marketers who have seen their universe shrink steadily since 1972, with small stations being eliminated and big pumpers springing up in their place.

Said Roscoe, looking ahead: "The future looks much brighter. . . . One of the problems of the past has been the ease of entry into the business. That has changed. You can't start one store today for what you could start a hundred-store chain a few years ago.

"It's going to be a better business for those who change and remain in business. There will be fewer stores with bigger sales, higher profits, and lower returns on equity than in the leveraged past."

—J. Richard Shaner

C-Store Gasoline Growth Doubles in Seven Years

Survey Year	No. of Stores	Net Growth	No. with Gasoline Units	Gasoline Units Added in Year	% of Stores with Gasoline Units
1982(a)	12,400	107	5,799	393	46.76%
1981	12,445	205	5,533	442	44.45
1980	13,167	247	5,630	447	42.76
1979	12,920	313	5,153	569	39.88
1978	12,597	644	4,584	792	36.38
1977	11,953	360	2,792	959	31.72
1976	11,356	672	2,786	557	24.53
1975	10,143	928	2,147	194	21.16
1974	9,258	1,042	1,964	—	21.21

(a) Data includes either full- year 1981 or half-year 1982 for participating chains, depending upon fiscal years involved.
Source: 12th annual Dollars-Per-Day Survey, John F. Roscoe.

Top Profit Chains: Gasoline Statistics

Shop & Go	% Change Vs. Year Ago
Operating income from gasoline sales: $2,723,000	39.2%
Number of units: 268	1.1
Gallonage: 49,000,000	16.7
Avg. retail price: NA(a)	
Rental received per gal. pumped: 5.6¢	21.7
Avg. gallonage per unit per month: 15,236(b)	15.4

(a) Not available; (b) Estimated by NPN on available data.

Circle K	% Change Vs. Year Ago
Gasoline sales: $283,400,000	24.8%
Number of units: 780	3.6
Gallonage: 230,700,000	19.8
Avg. retail price: $1.228	4.2
Avg. margin (see footnote)	
Avg. gallonage per unit per month: 25,063	15.6

*Annual report says margin varied between 4.7¢ and 8.9¢ in 1982 vs. 6.5¢ and 12.4¢ in 1981.

Southland	% Change Vs. Year Ago
Gasoline sales: $1,195,400,000	30.9%
Number of units: 2,517	12.1
Gallonage: 956,000,000	20.6
Avg. retail price: $1.250	8.6
Avg. margin: NA(a)	
Avg. gallonage per unit per month: 33,458	10.3

(a) Not available

National Convenience Stores	% Change Vs. Year Ago
Gasoline Sales: $255,470,000	43.3%
Number of units: 585	22.4
Gallonage: 216,500,000	18.8
Avg. retail price: NA(a)	
Avg. margin: 7.5¢	2.7
Avg. gallonage per unit per month: 33,945	3.0

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Gasoline Demand Fell for 4th Straight Year

Continuing the trend of recent years, gasoline consumption declined another 1.3% in 1982, according to American Petroleum Institute's year-end summary of key distribution statistics.

Technically, the API figures account for only the amount of gasoline supplied from primary inventories during the year, but they are considered good indicators of consumption as well.

Distillate deliveries slumped 5.3% in 1982 while residual fuel oil deliveries plummeted 20.5%, API says.

Total products delivered were down 5.5% for the year. Following is API's recap for the year:

	(millions (b/d)		%
Products supplied	**1982**	**1981**	**Chng.**
Gasoline	6.5	6.6	(1.3)
Distillate	2.7	2.8	(5.3)
Residual	1.7	2.1	(20.5)
Total Prods.	15.2	16.1	(5.5)

In early 1982, gasoline deliveries surged ahead of the totals for the comparable period of 1981, leading many marketers to believe that a recovery was in progress. This flattened out, however, and deliveries in the month of December alone were down 6.0% from the year-ago levels.

Unleaded gasoline's share of the market rose only 3.3% in 1982, a much smaller growth rate than has been evident in recent years. API blames it on a "tepid economy that slowed new car sales in 1982 to the lowest level since 1961."

Imports of crude oil and products also declined in 1982, according to the API report. Crude oil imports were down 20.1% from 1981. "The degree of U.S. dependence on imports, which has been trending lower since 1979 . . . decreased from roughly 45% [of U.S. supply] to about 32% in 1982," notes API, offering these statistics:

	(millions b/d)		%
	1982	**1981**	**Chng.**
Total supply	15.7	16.5	(4.8)
Dom. crude prod.	8.7	8.6	1.0
Crude imports	3.3	4.1	(20.1)
Prod. imports	1.5	1.6	(3.9)

The increase in U.S. production is attributed mostly to the strength of the new Kuparuk River field in Alaska.

API reports that inventories fell sharply during the year, although supplies now are considered adequate for the demand expectations.

Gasoline in primary inventories stood at 38 days of supply on Dec. 31—at the high point of what API calls the normal range for that period.

Distillate fuel inventories were around 61 days of supply at the end of the year, also a "normal" point in light of reduced demand.

Motor Fuel Tax Hikes Get 37-State Review

Motorists could be hit with motor fuel tax increases from all directions this year.

A late January summary by the Highway Users Federation, a Washington-based organization, says at least 37 states will consider gasoline and diesel fuel tax hikes in 1983.

Of these, 16 previously raised their motor fuel taxes in 1981 or 1982.

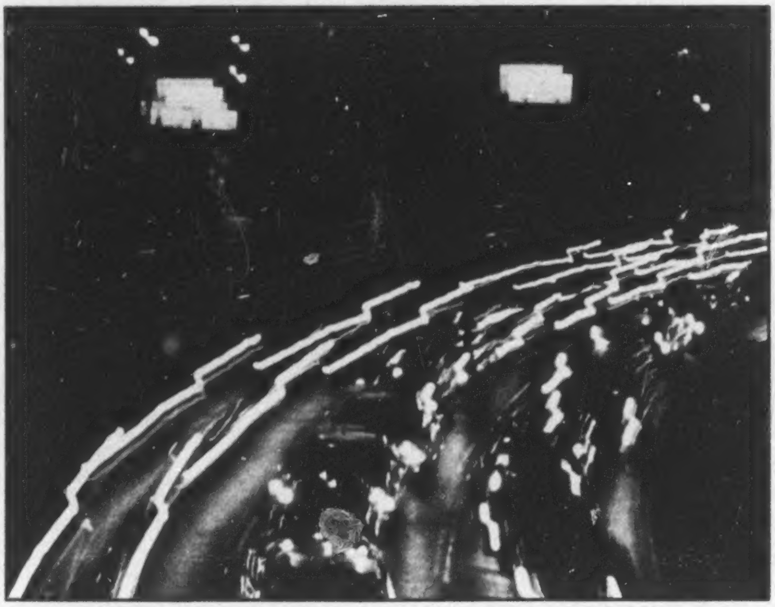
The following states will be involved in tax legislation this year, according to the federation: Alabama, Arizona, Arkansas, California, Colorado, Connecticut, Florida, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Maine, Massachusetts, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, South Dakota, Texas, Utah, Vermont, Virginia, Washington, West Virginia and Wisconsin.

Currently, state motor fuel taxes range from a low of 5¢ gal. for gasoline and 6.5¢ gal. for diesel fuel in Texas, to a high of 14¢ on gasoline in New Hampshire and the District of Columbia, and 15¢ gal. on diesel in Iowa.

The average state tax on gasoline is 10.3¢ gal. and on diesel, 10.5¢ gal.

Over and above these state and local taxes, of course, is a federal tax of 4¢ gal., which will be increased to 9¢ gal. on April 1. That will escalate New Hampshire's total taxes on gasoline to 23¢ gal.

In most states, motor fuel taxes are assessed on a flat cents-per-gal. basis. Eleven states and the District of Columbia switched to a variable tax structure in recent years. In 1983 legislative sessions, 16 states now using the flat tax approach will consider changing to the variable formula. Of the states already using the variable formula, however, at least seven are planning to consider bills which may adjust the formulas to produce more revenue, or perhaps change back to the cents-per-gal. basis. These states are Indiana, Massachusetts, Nebraska, New Mexico, Ohio, Virginia and Washington.


At least three-fourths of the states have pending legislation which would increase gasoline and diesel taxes. Sixteen of them hiked one or both of these taxes recently.

Five states will take up bills affecting diesel fuel taxes. They are Indiana, Maine, Minnesota, North Dakota and South Dakota.

Seven states will consider sales taxes on motor fuel, either for the first time or for purposes of increasing them. These states are Alabama, Arkansas, Mississippi, Missouri, South Dakota, Washington and West Virginia.

Earnings Suffer Again In 1982 Market Pinch

Awash in a sea of sloppy markets, depressed prices, declining consumption and a soft economy, the big oil companies continued to make money in 1982 but not nearly as much or nearly so fast as in the late 1970s.

Minus signs, for the third or fourth year in a row, again dominated the fourth-quarter and full-year earnings reports. Only a few companies were on the plus side—notably Union and Atlantic Richfield in the heavyweight division and Tenneco and Diamond Shamrock down the line.

Cities Service Co., absorbed by Occidental Petroleum Corp. in the waning months of 1982, said its sales and earnings data were to be incorporated in the financial report of the new owner. It was not known whether Occidental would release all of Citgo's figures or just part of them.

Marathon, for the second year in a row, had no breakout available. It was taken over by U.S. Steel Corp. in 1981. The steelmaker did say, however, that Marathon racked up a pre-tax operating income of $1.23-billion and accounted for 51% of U.S. Steel's sales in 1982.

There were no reports available on Conoco, which was acquired by DuPont in 1981 in another historic merger.

Plus Signs Are Rare In '82 Earnings Reports

(In millions of $)

Company	4th Qtr. 1982	4th Qtr. 1981	% Chng.	Full Yr. 1982	Full Yr. 1981	% Chng.
Exxon	$1,480.0	$1,385.0	6.9%	$4,185.0	$4,826.0	(13.3)%
Mobil	282.0	587.0	(48.0)	1,380.0	2,433.0	(43.3)
Texaco	306.0	507.0	(39.6)	1,281.0	2,310.0	(44.5)
Stand. of Calif.	425.0	571.0	(25.6)	1,380.0	2,380.0	(42.0)
Stand. of Ind.	415.0	384.0	8.1	1,826.0	1,922.0	(5.0)
Gulf	226.0	301.0	(24.9)	900.0	1,230.0	(26.8)
Shell	438.0	458.0	(4.4)	1,610.0	1,700.0	(5.3)
Atl. Richfield	434.0	469.8	(7.6)	1,676.1	1,671.3	0.3
Stand. of Ohio	463.9	477.8	(2.9)	1,879.1	1,946.9	(3.5)
Sun	151.0	448.0	(66.3)	537.0	1,080.0	(50.3)
Phillips	154.6	186.5	(17.1)	645.9	879.4	(26.6)
Getty	172.7	216.5	(20.2)	691.6	856.9	(19.3)
Union	225.0	236.0	(4.7)	804.0	791.0	1.6
Amerada Hess	43.6	48.2	(9.5)	168.7	212.6	(20.6)
Cities Service (a)	—	—	—	—	—	—
Marathon (b)	—	—	—	—	—	—
Tenneco (c)	288.0	260.0	10.8	819.0	813.0	0.7
Ashland (d)	29.1	47.5	(38.7)	—	—	—
Kerr-McGee	73.5	66.0	11.4	209.8	211.1	(0.6)
Dia. Shamrock	46.2	59.7	(22.6)	185.1	121.3	52.6
Murphy	40.1	38.5	4.2	159.1	163.0	(2.4)
Amer. Petrofina	14.8	17.0	(12.9)	54.4	74.1	(26.6)
Quaker State	7.2	6.7	7.5	38.6	27.4	40.9
Pennzoil	50.5	54.8	(7.8)	188.7	221.6	(14.8)

(a) Merged into Occidental Petroleum late 1982 and unknown whether breakout figures will be available; (b) Merged into U.S. Steel Corp. and no breakout figures available; (c) Corporate report includes Tenneco Oil Co.; (d) First quarter, fiscal ends 9/30.

FTC Seeks Comment On Advertising Rules

Despite early indications that the Federal Trade Commission would move quickly to ease advertising restrictions for marketers using "games of chance" for promotional purposes, the FTC has decided instead on lengthy rulemaking procedures that will keep the current regulations in force for at least several more months.

The commission is considering a request by its staff to ease rules regarding ads for promotional games aired by television and radio stations. Because the current regulations require gasoline marketers to make long, detailed disclosures, broadcast advertisements are nearly impossible to condense into the standard 30- and 60-second formats.

In considering the proposed rule changes, the FTC will first seek public comments on whether the rules should be changed at all and then later will seek additional comments on the rule-change proposals themselves. That means final action won't come before mid-summer.

The proposals now before the FTC would exempt broadcast advertisements from the full disclosure rules and also would change record-keeping requirements by reducing the length of time such records must be kept from three years to one.

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Stores Still a Welcome Retail Addition But Investments Soar and Sales Lag

One of the hottest diversification trends ever to hit the gasoline and convenience store industries—the self-serve pumper/convenience store tie-in—is still one of the lowest-cost methods of doing business for both sides.

Despite the high investments required to get in either business today, marketers with such successful tie-in operations say they usually can cover their monthly operating costs with either gasoline or store revenues.

But getting into the C-store business for the first time today is not the piece of cake that it was five or 10 years ago. Some oil jobbers with C-store operations, in fact, warn the inexperienced person to be extremely cautious about joining the trend now.

The C-store industry, they say, is beginning to experience the same problems that have plagued gasoline marketing for the past two or three years. These problems include:

- **Growth slowdown.** After two decades of explosive growth, the rate of new store openings has decreased, while the rate of closings is rising.
- **Sagging sales.** Total sales inside all stores hit $23.2-billion in 1981, according to the National Assn. of Convenience Stores (NACS), up 13% from 1980. This was roughly half the average annual growth rate between 1977-1980. In addition some large gasoline marketers report current "in-store" sales are off from 5% to 25% compared to a year ago.
- **Soaring costs.** C-store chains and large gasoline marketers routinely spend from $350,000 up to $1-million or more on a new store these days. All operating costs are up. Many marketers are diversifying into fast foods and other lines, which increases equipment investments.

Some large-chain gasoline marketers with store operations believe the store business has become too expensive and sophisticated for small operators.

"I think we will see a shakeout in the store business similar to what we've seen in gasoline," says Truman Arnold, whose Arnold Distributing Co. operates a large chain under its Road Runner brand. "The older stores on secondary locations are in trouble."

Allure Still There

Other large gasoline marketers who have been in C-stores for some time say that in today's environment, they wouldn't want to enter the field for the first time.

Most of these marketers agree, however, that it is hard to beat a well-run C-store/self-serve gasoline operation when it comes to reducing the total cost of doing business. Arnold and other gasoline marketers say a good store operation can make a profit on total rack-to-retail gasoline margins in the 3¢ to 6¢ range. Few other methods of retailing gasoline can match such numbers.

"If I can encourage a gasoline marketer to get in the C-store business today at the right location, I've done him a favor," says Jack Griffith, Griffith Petroleum, Stillwater, Okla. "But if I encourage him to get in at the wrong location, I've done him a great disservice. You've got to be very careful about entering the store business today."

The C-store industry has changed a great deal since gasoline marketers began urging stores to sell their product.

A Changed Outlook

Gasoline marketers faced tough market conditions in their field somewhat similar to today's when they first began courting the store industry in the late 1960s and early 1970s.

But it was relatively inexpensive to put self-serve pumps in front of a C-store then, or to convert a service station into a store. In addition, the store industry was growing by leaps and bounds.

There were only 3,500 C-stores in the U.S. in the early 1960s, according to NACS. By the end of 1981, there were 38,000. Of this total, says the trade association, some 16,416 or 43.2% were selling gasoline. Other sources estimate there were 38,700 total stores last year, with roughly 46.7% of them marketing gasoline.

C-store gasoline sales, which were just a trickle in the early 1970s, have skyrocketed. In just a four-year span, from 1977 through 1980, NACS says total store and gasoline sales more than doubled, rising from $10.2-billion to $20.5-billion. Gasoline sales at C-stores in this four-year period jumped from $1.6-billion to $7.6-billion, a 375% increase, says NACS.

Some of the whopping increases in dollar sales for the C-store industry since 1977 reflect gasoline price increases. NACS reports that average per-store gasoline sales increased from 25,900 gal. month in 1977 to 36,500 gal. in 1981.

But even these averages are misleading. NACS didn't include stores with seven or more hoses in its calculations, and most of these are high-volume units. Many units with 10-12 hoses or more will pump 100,000 gal. or more per month.

One gasoline marketer with a chain of nearly 100 stores including large gasoline pumpers reports that his per-store gasoline volume runs about 175,000 gal. month. Another marketer who puts more emphasis on store sales averages 60,000 gal. or better.

Soaring Investments

The possibility of capturing such high gasoline volume is spurring both C-store chains and gasoline marketers to build newer, fancier stores with expensive gasoline equipment.

In Memphis, Tenn., for example, some large store chains have been paying up to $300,000 for real estate locations, says Jack Malone, a large gasoline marketer who has steadfastly refused to get into large C-stores. Typically, he says, those chain-owners put 8-hose gasoline installations on such sites with a 2,000- to 2,400-sq.-ft. store.

Malone says he has seen brand-new stores in Memphis representing very high investments close their doors six months after opening. Willis Reed, a Beaumont, Tex., jobber, says he saw Southland Corp. close a new unit shortly after it was opened, only to move about two blocks away and build another in Texas' Rio Grande Valley.

Beaumont is another "over-saturated" C-store market where ambitious new building programs are underway. Southland reportedly plans to build approximately 21 new stores in this market. Local marketers estimate the units built so far represent total investments of about $400,000 for the store building and 8-hose gasoline equipment.

"You see this kind of building going on, although you also see lots of closed stores and hear of others being for sale," says Malone in Memphis. He notes one large chain has been trying to unload at least a dozen stores in Memphis.

Every situation is different. On the average, however, marketers generally say a C-store with gasoline today should pump at least 50,000 or 60,000 gal. while maintaining "inside" sales of $1,000 a day or better.

When gasoline marketing conditions somewhat similar to today's existed during the late 1960s, it was relatively easy and inexpensive to add self-serve gasoline pumps at C-stores. Some jobbers recall such installations for under $10,000.

By Marvin Reid and Staff Writers

Store owners and operators were willing to settle for a small commission or, at most, a split of the gasoline profits back then, also.

New Economics

A far different situation exists today.

The larger C-store chains generally prefer to purchase and install their own gasoline equipment now. Some 70% of all C-stores selling gasoline owned their equipment by the end of 1981, according to NACS, at average investments of $48,800 per new store.

NACS' survey also found that two-thirds of all stores selling gasoline were getting their fuel in 1981 from jobbers. Many chains, however, purchase their gasoline direct from refiners or other primary sources today.

Some jobber sources say a "split-the-profits" deal can still be cut with smaller store chains today. In some cases, the C-store even pays rent on the gasoline equipment.

In today's keenly competitive market conditions, however, jobbers with experience warn that it is easy to lose C-store customers to other gasoline sellers with lower prices.

Willis Reed, founder of Reed Distributing Co., a large multibrand jobbership in Beaumont, Tex., and Fred Hackler, president of Mini-Serve, Inc., [see p. 48] say they still make commission or split-margin deals. But before they will put in $45,000 or so of gasoline equipment, they insist on a 15 year contract with two, five-year options.

Ralph Watson, a Marshall, Tex., Exxon jobber [see p. 72], says he now puts in gasoline equipment on rental-purchase option agreements. If the C-store operator decides that he wants to switch gasoline suppliers, he must buy Watson's equipment.

"You need strong agreements in today's market," says Reed. "Some Texas jobbers who haven't had them have lost most of their business almost overnight."

Fast Foods Move In

Large store chains now are heavily involved in fast-food and deli operations. NACS reports average gross margins from such activity are around 40%, compared to 20% for conventional C-store lines.

The average fast-food equipment investment for a new $343,000 convenience store in 1981 was $7,200, according to the report.

Gasoline marketers with several years of C-store experience have moved into fast-foods, too, but they urge other jobbers to be especially cautious about doing so. Pioneers in both C-stores and delicatessens, like Tom Love of Oklahoma City [see p. 68], say the two are separate businesses with separate problems.

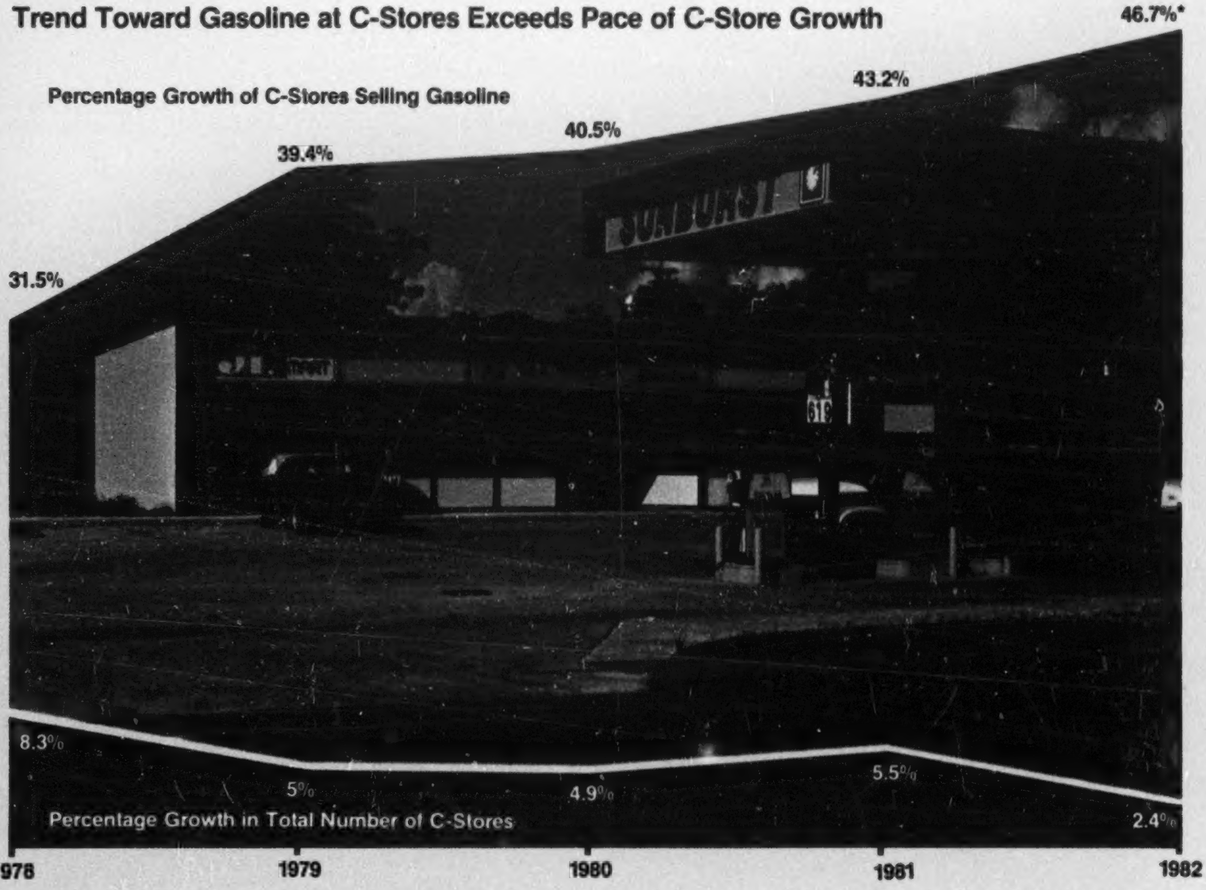
If a jobber does decide to get in the C-store business today, two large gasoline and store operators say they could see sales as slow "inside" as "outside" on the pump islands.

"Our store sales are off in the range of 12% to 15%," says Fred Hackler, president of Mini-Serve Inc., Beaumont, Tex. "I think the store business today is just as tough as the 'gas' business. You better know what you are doing before you launch into C-stores today."

NACS is still bullish about the industry it represents. It says U.S. demographic and geographic trends all add to continued growth. "Conservative estimates are that the industry will double in size over the next 10 years," it says.

There are indications, however, that the robust growth may be slowing down.

Trend Toward Gasoline at C-Stores Exceeds Pace of C-Store Growth



*Estimate, projected from part-year data from top 11 publicly-owned convenience chains as reported in the 12th Dollars-per-Day Survey, John F. Roscoe.
Source: National Assn. of Convenience Stores

April, 1983 $4.00

How a Small-Town Jobber Makes Big Profits
Why Beacon Oil Sells Tires By Telephone
More Alternate-Use Ideas for Old Stations

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APRIL 1983 VOL. 75 NO. 4

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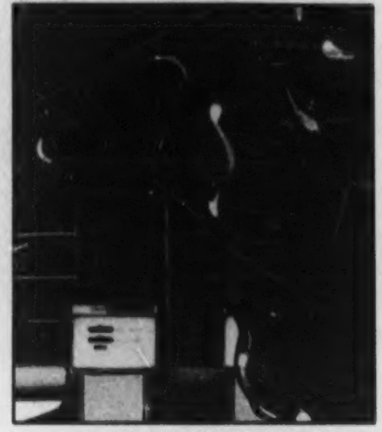

Even without all the "discount for cash" and "honor all cards" promotions, motorists in many large cities should be getting the message that major oil companies are eager for their business again. The majors are revising and refining their station images to give them a retail presence that will attract and maintain more gasoline customers. Page 36.

Cover illustration by Marcus Design, Inc.

Early indications are suggesting that there could be short-term benefits and long-term problems for oil marketing from the international crude oil price war. Page 27.

Beacon Oil Co. of Hanford, Calif., would have shown a decline in its tire revenues in 1982 if not for "telemarketing." Instead, the independent refiner/marketer had record tire sales of $3.7-million, and an increase of a half-million dollars over 1981. Page 44.

• TRENDS

As Federal Deficits Loom, So Does Crude Import Tax

Like the old saw about counting chickens before they're hatched, it may be too soon for marketers to start counting on plummeting crude oil prices to start showing up at terminal racks.

True, crude prices are falling and may continue to fall. But jobbers dealers and consumers aren't the only ones who realize what is going on. The Reagan administration and Congress—strapped with a huge budget deficit—also have their eye on crude markets. In Washington, there is a growing feeling that some of the savings stemming from lower crude prices will be steered directly into the federal treasury.

It wouldn't be hard to do. All that's needed is a modest tax on imported crude oil. About $5 bbl. is the current figure in the Washington rumor mill. The revenues from such a tax would barely be noticed on the street, where prices probably would hold steady or merely fall less quickly than predicted. On the other hand, the tax's effect on the federal budget deficit would show up clearly and quickly.

Given the current tax structure, the downward trend in crude prices has noticeably hurt government revenues. Martin Feldstein, the chief White House economic advisor offered another temptation to raise oil taxes by pointing out that each $1 bbl. drop in the price of oil adds as much as $1-billion to the federal deficit. The addition to the deficit results from reduced collections from the windfall profits tax, which is based on a percentage of selling price.

Asked about the possibility of an oil tax increase, Feldstein said "I wouldn't rule out any kind of change (in energy tax policies) at this point."

It is no secret that President Ronald Reagan, despite a general anti-taxation posture, would welcome a new source of revenue. It's also clear that an energy tax is not viewed by the White House with the same distaste as is an income tax hike. In his State of the Union message, the president called for a $5 bbl. crude oil tax as part of the so-called "trigger tax" that would go into effect if the budget deficit hasn't reached manageable levels by 1985.

The trigger tax isn't very popular on Capitol Hill and isn't likely to be passed by Congress. A straightforward tax—perhaps limited to imported crude—might be far more attractive. There are quite a few arguments that could be employed in defense of such a tax. Some would be tough to argue against, in fact.

First, there is a conservation argument. The reasoning might be something like this: High pump prices are the most effective way to foster continued conservation of limited energy resources. If prices are allowed to fall, consumption will increase and the nation may find itself once again in the grip of foreign oil-producing countries. Also, if oil becomes less expensive, increased consumption will cause additional environmental pollution.

There also is an economic argument. Higher gasoline prices have influenced the plans of the U.S. auto industry. Falling gasoline prices won't help sales of the small fuel-efficient cars that Detroit is banking on to revive the ailing automakers. If car buyers once again change their mind and begin looking for larger vehicles, there may be more layoffs in the auto and related industries.

Would the major integrated oil companies be against such an import tax? Some undoubtedly would—those that import large quantities of crude. Their competitors with large domestic reserves, which would not be subject to the tax, might not be so eager to do battle, however. A surcharge added to imported crude would help them maintain prices. What would be a tax to some producers would be a windfall profit for others.

Is the tax at all likely? Much will depend on where (or if) prices stabilize. The easier it becomes for those backing the tax to convince lawmakers that it will be painless, the more likely the tax becomes. Sources at the White House Office of Management and the Budget (OMB) say that office is getting a crude tax proposal ready in case the White House wants one. The House Ways and Means Committee and the Senate Finance Committee also are exploring the idea, sources say.

Crude oil taxes, especially taxes on imports, haven't been popular in the past, but it may be that this time, the time is ripe.

—Tom Goldsmith

• MARKETPLACE AT A GLANCE

AVERAGE GASOLINE PRICES IN THE U.S. (¢ per gal.)

JANUARY	Gasoline (All types)	Leaded Regular	Unleaded Regular	Leaded Premium
U.S. City Avg.	$1.213	$1.146	$1.228	$1.353
Regions:				
Northeast	1.258	1.196	1.258	NA
North Central	1.220	1.173	1.240	NA
South	1.196	1.125	1.209	NA
West	1.188	1.102	1.206	1.356

Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

STOCKS (Add 000 bbl.)

	2/25/83	2/26/82
Gasoline (total)	249,989	255,175
Gasoline (unleaded*)	99,916	100,136
Kerosine **	33,148	30,483
Distillates	148,024	143,554
Residual	54,452	63,855

**Included in gasoline total.*

***Jet kero only; totals no longer kept by API and DOE.*

Source: American Petroleum Institute.

Even without all the "discount for cash" and "honor all cards" promotions, motorists in many large cities should be getting the message that major oil companies are eager for their business again.

The majors are revising and refining their station images to give them a retail presence that will attract and maintain more gasoline consumers. Companies are changing their logo styles and color combinations; emphasizing dealer training and uniforms; rehabilitating stations they plan to keep in operation; and, in a few cases, building expensive new retail facilities.

Since the early 1970s, most large oil companies have put more effort into divesting themselves of surplus service stations than in building new ones. But even as they continue to board up or sell off many older stations, the large companies today are turning their attention toward developing retail networks that have eye-appeal.

Such activity is especially noticeable in large metropolitan centers of the sunbelt states. Some majors, however, have five- or six-year, multi-million dollar programs underway which eventually will give their entire retail networks a new look.

Even top corporate executives say the reason for this burst of activity since decontrol in early 1981 is simple.

"We didn't have to be marketers in the 1970s," Gulf Oil's chairman James E. Lee tells his downstream people. "We have to learn to sell again. We have to entice the customer to use our product. We've got to be better than the competition."

Managers of most companies obviously believe they must have first-class retail facilities to lure customers onto their driveways, even if this means knocking out still more stations built 20 or 30 years ago.

Independent marketers and convenience store chains took a healthy slice of the majors' market share during the 1970s when federal controls tended to hamstring big companies more than little ones in building new stations.

"We got a jump on them with our building programs because we often ignored the regulations," admits an independent. "Some independents and convenience store chains have the best-looking retail facilities on the street today. But we see signs that the majors are waking up. And, they have the bankrolls to regain their image."

Search for New Identity

Several companies, indeed, have committed fairly large sums toward modernizing older facilities and building new ones. While the majority are guarded in revealing much about their programs, each exec talks about striving for a fresh image to fit the 1980s. In the same breath, they mention a need for greater efficiency and volume.

Gulf Oil's senior marketing vice-president, Ronald E. Hall dropped a tiny bombshell recently by saying his company will reduce its marketing costs 50¢ bbl. over

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the next five years, while maintaining about the same retail market share it had in 1982.

As part of its cost-reduction program, Gulf will divest itself of some 3,400 direct-supplied stations, reducing the number to 2,000. But, says Hall, the company's objective is to increase average station volumes by 55-60% for company-owned and operated outlets; 100% for "assured" dealers, and 150% for contract dealers.

The company is building "selectively" in high-growth metropolitan areas and is already "very near our targeted levels in such key markets as Dallas, Houston, New Orleans and Atlanta," says Hall.

Gulf came out with a new logo and color package in 1981 to brighten up the appearance of its stations.

Other majors are also reducing their number of owned or "investment" stations while simultaneously trying to increase throughput and efficiency of those they plan to retail or build.

Shell Oil, for example, divested itself of 3,300 owned stations from 1975 through 1982, while constructing 182 new units designed for high-volume operations. In 1982, alone, Shell reports it got rid of 600 investment outlets. The company says its objective is to relinquish the "older, outmoded stations" while increasing individual unit throughput with a smaller number.

Exxon USA publicly revealed in late 1981 that it was embarking on a $100-million modernization program that would result in 1,000 new or revamped stations over a five- to six-year period [NPN—Nov. '81 p27].

Other majors, while they won't be too specific for "proprietary" reasons, have been just as active in weeding out other stations while sprucing up those left. Amoco, which reduced its number of branded stations (including jobber outlets) by some 3,300 between 1977 and 1981, began a multi-million dollar "revival" program in late 1981 described as an "image" enhancement program."

What oil companies spend to stamp their names on public broadcasts . . .

	In millions*
Exxon Corp.	$5.5
Mobil Corp.	4.5
Chevron USA	3.5
Gulf Oil Corp.	1.9
Atlantic Richfield Co.	1.8
Shell Cos. Foundation	1.3
Sun Co.	1.2
Texaco	1.2

**These figures represent underwriting (production costs) alone. In addition, companies each spent on program promotion anywhere from half to 1½ times the amount they spent on underwriting itself.*

Source: Public Broadcasting Service

The Competitive Edge

Of the major company efforts to streamline their operations and improve their "street image," however, Texaco's is a real standout.

Texaco probably has been doing more culling out of old stations, more market retrenchment, more building of new facilities, and more revamping of stations than has any other company since federal controls were lifted.

The company also, for the first time since 1937, has designed a completely new identification symbol for its marketing operations.

In the early 1970s, Texaco had 11,000 investment stations and had its brand up in all 50 states. By last August, it had trimmed its investment outlets down to 3,300, and is planning to further reduce this number to 3,000 "modern, high-volume" units.

Amoco's 'Allstar' campaign, which includes discount-for-cash and other programs, is pitched to its resellers as 'image leadership,' and now covers jobbers as well as dealers.

Amoco
Amoco Premium
Amoco Regular

In November, 1981, when it still had 3,600 investment stations, the per-unit average gallonage was 34,000 gal. a month compared to 28,000 in 1979. Texaco is shooting for a 52,000 gal. a month average by the time it reduces its total number to 3,000 units.

The company has now completed its program of getting out of all or parts of 19 states in the northern Rockies, Midwest, and certain Great Lakes areas, and is consolidating its marketing operations in the Northeast, Southeast, Southwest and West Coast.

Texaco had completed 54 new-design stations in May 1982, and had plans at that time to open 102 more, according to James W. Kinnear, executive vice president.

Of all its activity since the late 1970s, however, Texaco's multi-million dollar redesign program is especially noteworthy. The company believes this program has enhanced its national image in the minds of motorists and makes its retail outlets stand out against today's competition.

It thinks the new design gives its retailers "the competitive edge" in today's tough markets.

Pushing That Image

Other majors likely would dispute Texaco's claims to having an image edge with its dramatic design changes. In addition to polishing up their facilities, the majority once again are emphasizing such things as cleanliness and well-trained attendants.

Amoco has what it calls an "Allstar Marketing Strategy" which embodies various dealer service and image awareness. Amoco describes the program as being a consumer-oriented marketing strategy.

Participating dealers will be evaluated four times this year to qualify for "Allstar Excellence Awards." Amoco says this is the foundation of a five-year "image leadership program" which will bring a consistent, uniform customer-drawing look to more than 5,000 of its stations by 1985.

Chevron USA, long recognized as an image leader on the West Coast, has been fine-tuning its "Hallmark Award" program for dealers. Those who meet or exceed various criteria get their stations identified as meeting the highest standards in customer service and appearance.

Shell has a "Top Performer" image program with prizes that included a collection of silver-plated awards, clocks and gold rings. Awards are made quarterly and annually, with some station evaluations performed by sales teams other than those normally responsible for a retailer's territory.

Shell regularly publicizes retailers who it describes as "Shell Image Makers" in company publications. Similar to most other majors, it also has incentive programs for dealers to buy and sell TBA and other products. Direct dealers this year can earn such things as a free trip to Hawaii.

Sales districts of most companies are encouraged to push image programs. Gulf's New England district has conducted a station appearance contest for the past three years. Winning dealers and their spouses are invited to a special lobster banquet and awards presentation ceremony.

Yes, Big Is Better

As they do their selective building of new retail outlets for today's market, the majors generally are making considerable changes in their designs in order to recognize such things as the self-service and convenience store influence.

Texaco has what it calls a "family-of-buildings" concept involving separate prefabricated modules for C-stores, car washes, "gas" bars, auto service centers, and so forth.

Exxon now groups its pumps under a free-standing canopy similar to independent self-serve pumpers, and puts a central kiosk at some of them. Where office space and service bays were once part of an integral unit, new designs provide more of a physical separation.

"The sale of gasoline and the servicing of cars are really two distinct businesses," explains Jack Sallman, Exxon's retail practices coordinator. He believes the new design helps dealers run each part of the two businesses more efficiently.

Although Shell continues to emphasize its "Auto Care" program involving more than 1,900 stations, it has been out front in building self-serve, "gasoline-only" outlets designed for high volume. Over a five-year period ending late last year, it had built or rebuilt 250 stations, with 98% of these being the high-volume type.

Most companies mention changing customer patterns as they change their station designs and approach to marketing. Today's younger generation, several execs say, is especially attuned to self-service and the skyrocketing gasoline prices of the 1970s which have made most people price-conscious.

As they build and modernize for today's market, most majors have increased substantially their per-unit gallonage goals. Some majors' executives venture to say that any station pumping under 50,000 gal. today is a borderline unit. One large major reportedly plans to divest itself of all outlets that fall under that level in the Southeast over the next three years. If so, this means it plans to dispose of about one-third of its present total in that region.

Shell says that one of its high-volume investment stations of the type it has been building for the past five years must move 150,000 to 250,000 gal. a month to "justify its existence." Other majors talk of minimum requirements of 100,000 gal. for their direct-operated pumpers.

Station Fallout Continuing

The present spurt in major company building and revamping activity follows a huge fallout of retail service stations in the 1970s. While the deactivation pace recently has slowed slightly, the present emphasis on more modern facilities is bound to take a further toll on older units that are not revamped.

Since 1972, when the total count of service stations peaked at 226,500, more than 81,000 have disappeared, according to the Bureau of Industrial Economics of the U.S. Commerce Department. [NPN—Feb. p27] This agency puts the 1982 station census at 144,690 units, and projects the total number will drop to 139,250 by the end of this year.

Among the majors, 28 deactivated at least 50,882 stations between 1972 and 1981, while building slightly less than 5,000 new outlets, according to the American Petroleum Institute. (These figures aren't exact, API explains, because five of the companies in 1974 and three in 1975 didn't respond to its survey.)

While the pace of station closures may be slowing down, the companies seems to be as anxious as ever to sell off retail properties. Gulf, for example, in its present push to trim its marketing costs, is offering surplus outlets to dealers, jobbers, and others.

Jobbers and independents say they often find pretty good buys from major company divestment lists. Some marketers say, however, that the companies generally continue to insist on "fair market value," especially for the land a station is on.

"I think they will come off this," says one jobber who was once on a major company's marketing staff. "A lot of the stations they are trying to sell off today were built 20 years ago. They have long since paid out."

Another jobber, however, says he doesn't mind paying the price determined by a current land appraisal on a station, if the cost fits his operation plans. But he does do a lot of hard negotiating on facilities.

To be sure, there will continue to be quite a few properties on the market, most sources agree, as the majors continue to "surplus" stations in their drive for an enhanced image and improved efficiency with their retail networks.

Texaco Unwinds Its Grand Redesign

Texaco, a company which steadfastly stuck to conventional service stations longer than most majors, is now making the biggest changes in its retail facilities and designs in 40 years.

Company executives, in fact, say they no longer refer to their retail outlets as "service stations."

The company adopted a "family-of-buildings" architectural concept in 1980 to help it design retail outlets for self-service gasoline and convenience store customers.

Since then, it has changed its station colors and logo in a multi-million dollar redesign program that will take several years to complete.

The total program is the largest design change for Texaco in 40 years.

"For the first time since 1937 when we came out with the green and white design for stations with spin-off designs for products, advertising, and uniforms, we have designed a complete identification system for Texaco marketing," says Walter Villars, manager of real estate.

That green and white style made Texaco stations among "the most recognized in the country" through the 1940s and 1950s, he adds. "Millions of motorists associated our stations with quality products and services that they could depend upon."

Between the 1950s and 1980s, Texaco experimented with various types of retail outlets and color schemes. These colors "earth tones"—were abandoned when it settled on its current graphics.

Today, Texaco's colors are red, black, white and gray for buildings, canopies, and signs. Computerized pumps are labeled with generic product names. One outlet may be a C-store with self-serve gasoline pumps while another may be primarily a self-serve pumper.

Whatever type outlet, everything from buildings to pump toppers is designed as a total package. The company also plans to adapt the new design to advertising, uniforms, and product packaging.

Why change something that was once so recognizable?

"To give customers what they want," says Villars. "Today they want the convenience of self-serve, of C-stores, and car washes in retail facilities. There will always be a place for the traditional ser-

C-Store Briefs

Study Data Show What Items Move Fastest and Why

The hottest profit items inside the nation's convenience stores are led by fountain drinks, fast foods, bakery goods, candy and snacks, in that order, according to a recent study.

The McKinsey study on consumer buying habits was based on customer surveys of more than 13,000 people in 12 major markets. The report, commissioned by Frito-Lay, covers 199 major product types in more than 2,000 C-stores nationwide.

The report says consumers have become more sensitive to C-stores' traditionally higher prices, and the number of convenience customers is dropping. "While fountain drinks, fast foods and other new categories have helped raise the average number of transactions by 19% since 1970, total store performance has remained flat," the study says.

The report says 90% of C-store sales come from regular customers, and that 60% of store customers shop in the store three to five times a week or more.

To boost the number of regular customers, the study suggests new promotion and merchandising techniques and an attractive shopping environment. Specifically, the research shows:

- Most snacks should be displayed in an aisle adjacent to the cooler. The study assumes customers might be prompted to wash down their chips with a soft drink.
- Controlled store tests show that at least 12 feet should be allotted for the snack section to display the proper variety of brands and to prevent costly stockouts.
- Small bagged snacks should be displayed at the end of this primary snack section to encourage impulse buying.
- The study says three to five displays of single serve snack items will help increase impulse buying. Sixty-nine percent of snack purchases of this type were bought on an impulse.
- Single-serve snack displays should be placed in high traffic areas near related items. Twenty-one percent of fast food customers also purchase single-serve snacks. And, 13% of the single-serve soft drink customers purchase single-serve snacks. Almost all single-serve snack purchases are part of another sale.
- Special displays dramatically increase the effectiveness of snack promotions, the survey concludes.

7-Eleven Stores Cut Robbery Losses 55%

Common sense, employee training and a tight cash-control system have enabled Southland Corp.'s 7-Eleven convenience stores to record a 55% decrease in burglaries since 1976.

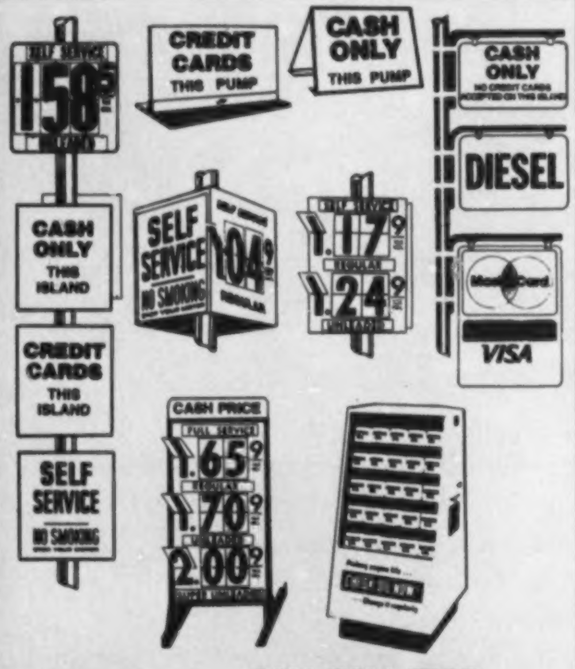
The company said it experienced a 25% decrease in robberies in 1982 alone. Southland has 7,615 retail stores, most of which sell gasoline and oil products.

Bob Buhrig, corporate security manager, says Southland's first goal is the safety of its employees and franchisees.

"All new store personnel are educated about how to prevent robberies, avoid violence and increase their own personal safety," he says.

"Training is constantly reinforced through storage signage, seminars and publications," he adds.

Reducing the amount of cash in the registers has had a tremendous effect on cutting robberies. Excess cash and big bills are deposited in a device beneath the counter which locks them up and limits access to preset intervals. The average cash loss in a C-store robbery now, he said, has been reduced 66% to around $45.



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Southland Aims High with Bid for Citgo
Will EPA Bust More Fuel-Switchers?
Charter Oil Resumes Expansionary Role

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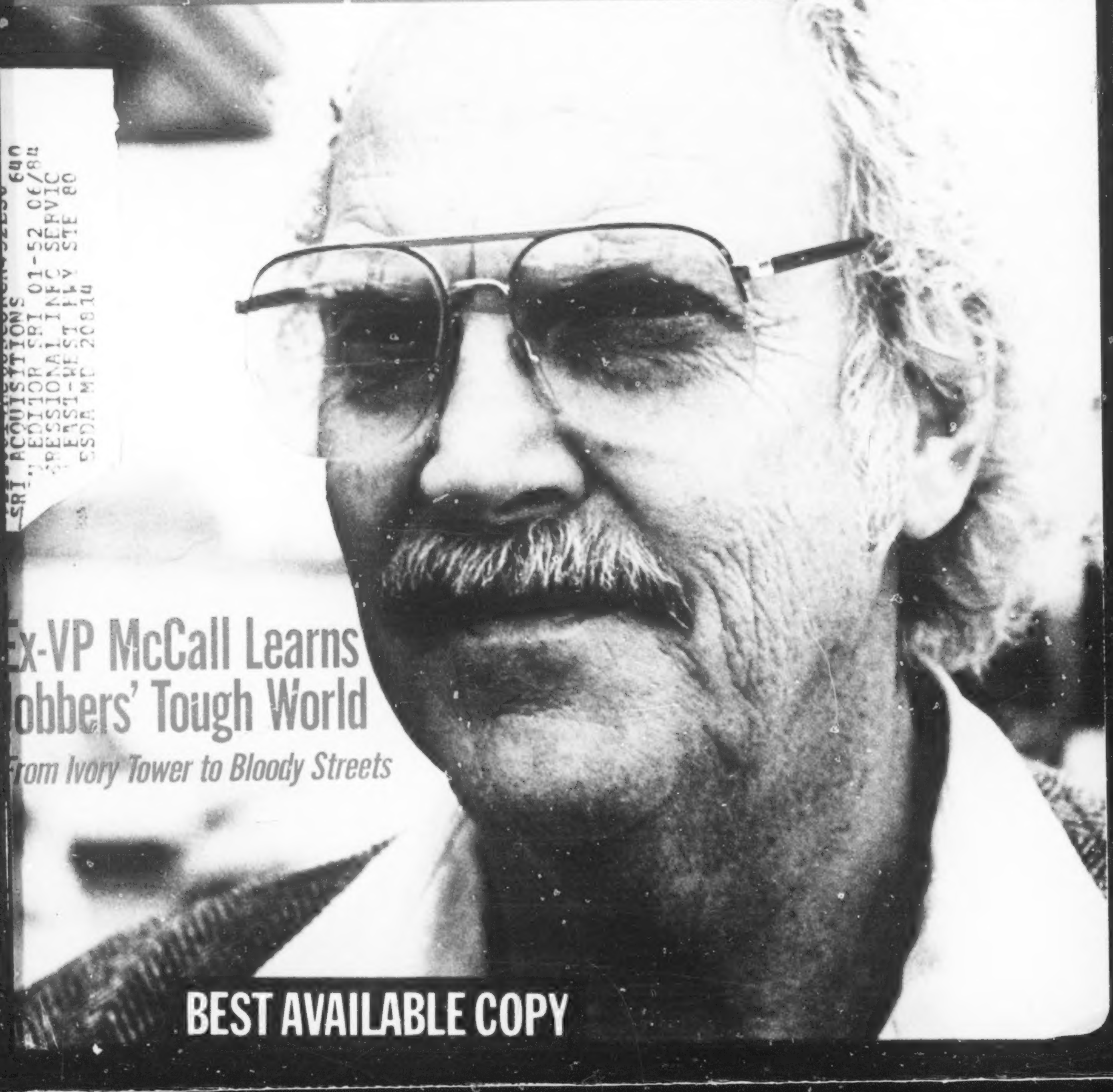

Ex-VP McCall Learns Jobbers' Tough World

From Ivory Tower to Bloody Streets

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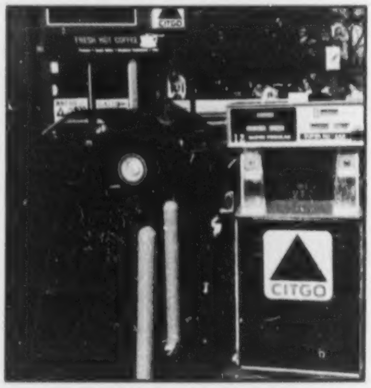
There are times late at night—as he hovers over an Apple computer in his San Antonio, Texas, home—when Bruce McCall must wonder if it was smart to give up his plush life as a major company executive to become an oil jobber. **Page 38.**

Cover photograph by Marvin Reid



Lots of unanswered questions hung in the air in early April after Southland Corp. revealed plans to purchase Cities Service's marketing and refining properties from Occidental. To be sure, however, the deal would change Southland's entire company profile and present a formidable new player in the oil marketing arena. **Page 29.**

For several months last year, a few Chicago dealers weren't getting what they paid for. After the Environmental Protection Agency got wind of it and investigated. the agency levied more than $5-million in fines on 17 marketers. Similar probes might follow. **Page 45.**

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• TRENDS

Southland/Citgo Will Invite Subsidization, Jobbers Say

Southland Corp.'s plan to purchase Cities Service's oil refining and marketing properties from Occidental Petroleum (see p.29) seems destined to increase the trend toward direct retail operations by both convenience store chains and oil companies.

And, as the chains and companies put increased emphasis on this method of marketing gasoline, arguments over how they figure their "true costs" are likely to intensify.

"Jobbers, by and large, argue that the oil companies use some rather loose accounting methods in figuring what it costs them to retail gasoline through their own facilities with salaried or commission help. Most jobbers also suspect that large C-store chains pay little attention to the total actual costs involved in their gasoline operations.

Many oil company executives, on the other hand, apparently believe they can retail gasoline at less expense through their own facilities in high-density metropolitan markets than they can through jobbers.

If Southland's planned acquisition of the Cities Service properties goes through, the transaction is bound to add more fuel to the fires of this dispute. Gasoline is already very big business for Southland, and the Cities acquisition would make it much larger.

Southland is currently selling about 100-million gal. of gasoline per month through 40% of its 7,300 7-Eleven stores. Some competitors say they doubt whether Southland cares whether it makes that much profit off gasoline; it just wants to keep the pumps pumping and the cash flowing. If retail prices are just $1 gal., the 7-Eleven pumps are generating $100-million in sales every month.

Other competitors claim to have "first-hand" knowledge that Southland wants to net at least 2¢ gal. from its gasoline sales. But whatever the company's targets, some competitors say they doubt the company charges all gasoline operating costs to gasoline.

Similar suspicions are voiced by jobbers about some major company retail operations. For instance, say some jobbers, certain majors do not include the investments they have in a retail location as part of its operating expense. Most independent jobbers say they include such investments and everything else in figuring their rate of return from a property.

A person who has first-hand experience of major company and jobber operations says there is no way a major can operate direct at retail "for less than 8¢ gal., even on their larger economy of scale." Any major trying to market for less than 8¢ gal., says this veteran, "is losing its a-- in marketing," but funny bookkeeping "covers up the losses."

Some gasoline marketers believe the C-store chains such as Southland are making investments today which have to be increasing their "true" gasoline selling costs. In some instances, their new stores are believed to range from $600,000 to $700,000 in per-unit costs.

"These C-store chains have been on a roll, just like the oil companies were in the 1950s and 1960s, but this is going to catch up with them," says one marketer. "They are moving from secondary to primary locations now at a much greater cost. If they really start putting the pencil to some of the things they are doing, they'll start backing off."

But maybe not.

The C-store people have learned what oil marketers have long known—there is no other business quite like gasoline for generating cash flow. If Southland's proposal to acquire the Cities Service properties is finalized, it could wind up with its retail pumps churning out double or more the $100-million or so in monthly gasoline sales that it how has.

With that much money flowing through its cash registers from the pump islands, Southland's management has no reason to be concerned over what others may think of its gasoline marketing operations. There are some gasoline marketers, however, who believe Southland and other large C-store chains have very low-cost operations.

Meanwhile, the oil companies which have staked out metropolitan markets as their preserves may be a bit more sensitive to jobber charges of "subsidized" retail operations. But they are going right ahead nevertheless, with their building and expanding.

In almost any metropolitan market of more than 250,000 nowadays, the jobbers find their toughest competition comes from the majors or convenience store chains, or both. This trend isn't likely to change for awhile.

—Marvin Reid

• MARKETPLACE AT A GLANCE

AVERAGE GASOLINE PRICES IN THE U.S. (¢ per gal.)

FEBRUARY	Gasoline (All types)	Leaded Regular	Unleaded Regular	Leaded Premium
U.S. City Avg.	$1.170	$1.099	$1.187	$1.318
Regions:				
Northeast	1.222	1.160	1.221	NA
North Central	1.181	1.131	1.202	NA
South	1.151	1.077	1.169	NA
West	1.135	1.042	1.156	1.324

Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

STOCKS (Add 000 bbl.)

	3/25/83	3/26/82
Gasoline (total)	236,129	250,362
Gasoline (unleaded*)	96,387	97,841
Kerosine **	33,244	34,579
Distillates	130,282	124,599
Residual	45,616	58,091

**Included in gasoline total.*

***Jet kero only; totals no longer kept by API and DOE.*

Source: American Petroleum Institute.

$360-million. And, it has been widely known that Southland had been in the market for refining properties.

There was some head-scratching, however, over this particular match-up of buyer and seller.

Southland was slow getting in the gasoline business in the 1970s when other C-store chains began adding self-serve pumps at their stores. Since making a commitment during the mid-1970s, however, the company has been one of the more aggressive gasoline retailers.

This bothers some marketers as they consider the size of Southland after the proposed acquisition of Cities. Last year, Southland had moved from the nation's eighth-largest unintegrated gasoline retailer to the number one spot. And, Southland's talk of getting product produced from cheaper heavy crude to the street bothers its competition, too.

Occidental's Dr. Hammer says Southland with its own refinery and some 4,000 or more retail outlets (its gasoline selling stores plus Citgo outlets) will be "one of the most successful downstream operations" in the industry.

Such statements reinforce apprehension among Cities Service's jobbers as to where they will fit in the new scheme of things. In addition, jobbers as a whole are concerned about the doubling of Southland's size in the gasoline business.

Jobbers Told 'Citgo' Safe

Southland assured some jobbers right after the proposed acquisition was announced that it will maintain the Citgo brand.

"They say they will maintain the brand, and I really feel like everybody will be better off over the long run," said Roy Mason, a large Citgo jobber in the Southeast. "Southland is a very progressive marketer. They don't know oil refining or oil marketing, but they know enough about marketing to understand our problems. I think we'll be better off because Occidental didn't want us," he says.

"Some of our members have already expressed concern about what Southland might do at retail," said Phillip Chisholm, executive director of the National Oil Jobbers Council, two days after the proposed acquisition was announced. "We are looking into it (the deal) to see of NOJC can or should try to do anything."

Mason says he also sees some competition problems for Southland at the street level with the Citgo properties. "They will be competing with some of us at retail, but that's nothing new," he says.

The official announcement of the deal had virtually nothing to say about future operating plans for the Cities Service properties, and Citgo marketing personnel were awaiting further developments shortly after the plan was revealed.

A Southland spokeswoman said details as to just how the Citgo properties will be operated had yet to be worked out. She did add, however, that no immediate changes in personnel or operations were contemplated.

One high-level Citgo marketing executive said his initial reaction was "positive" but added no negotiations concerning his status or that of other key Citgo people had taken place at that time.

Some outsiders were wondering if the Citgo brand can continue in competition on the street with 7-Eleven stores.

"The Quik Mart and 7-Eleven stores have been fighting here in Fort Worth," said a marketer in that city. "And, what about all those Citgo jobbers who often find 7-Eleven stores their biggest competition?"

One Powerful Company

Some observers also were questioning the wisdom of Southland getting in the oil refining business at a time when oil companies have been closing many plants. Unless the company stubs its toe on the refinery, however, these sources see the C-store giant as a very powerful retail gasoline marketer.

"I don't know if they can handle all of that business with just one 250,000 b/d refinery (the size proposed for the Lake Charles refinery after its conversion to heavy crude), but this will sure give them a lot of controlled volume," says one oil company executive. "But you've got to wonder if the one refinery can handle it, even if they get a 70% gasoline yield. It looks to me like the Citgo wholesale operation could be in jeopardy."

This is not necessarily so, though, says Citgo jobber Mason. "Any refiner should be a net-buyer of product. The last thing you want is more refinery capacity than you have customers."

"They can't handle it all with just the yield of that refinery," says another executive. "They would have to operate at 100% capacity 365 days a year, and you can't do that with a refinery. This will give them access to lots of exchanges and trades, though."

Both of these sources speculate that Southland may decide to "go to retail" with most of the refinery's output.

"I'd be worried if I were a Citgo jobber," says one. "Southland can make more money going to retail and getting rid of the jobbers. If they net just 2¢ gal. through their huge retail chain, that's a hell of a lot of money on 3.8-billion gal. a year."

On the other hand, acquisition of the Lake Charles refinery plus related capital improvement plans move Southland a step closer toward becoming an integrated oil company.

"This means they are no longer a grocery store outfit with a few 'gas' pumps," says an oil company executive. "Now, they will be an oil company with some grocery stores. Maybe they will find they need to help us fight such things as divorcement moves."

Farm Fuel Demand May Drop Due to USDA Crop Swap Offer

A new federal program designed to reduce agricultural surpluses is also likely to chop up profits for many rural jobbers.

Under the U.S. Department of Agriculture's Payment-In-Kind (PIK) price support program, wheat, corn, rice, sorghum and cotton farmers receive crops for idling part of their acreage. Federal officials estimate 79.8-million acres will be left idle this year.

"We've reached the maximum signup. Normally we don't reach that percentage of signup in our programs," says Carl Graham, a USDA agricultural marketing specialist.

Graham says 78% of the nation's corn and sorghum farmers have enrolled acreage in the program, as have 95% of the rice growers; 86% of the wheat producers and 94% of the cotton farmers.

To some rural jobbers, these figures from the fields could spell trouble at their bulk plants.

"You take a decreasing market for gasoline and then you take diesel fuel and you pay your farmers not to plant so they don't use diesel fuel, and you drive the rural jobber out of business," says Roger Lane, executive director of the Georgia Oilmen's Assn.

The National Oil Jobbers Council estimates about 55% of its 15,000 members are rural jobbers.

In Iowa alone, an estimated 80% of the petroleum marketers are farm jobbers, each one with an average gallonage of about 1-million gal. a year and about a third of the business in farm diesel.

"I am very worried about my own business," says Larry Watson, president of the Petroleum Marketers of Iowa [NPN—April '83, p63]. "I have been here 29 years on the same corner. I don't know if I will be here in 1983 or not. This is not a good industry to be in right now."

Watson says many jobbers already have problems collecting on their farm accounts. He says several of his farm clients have faced bankruptcy, and he depends on his lawyer to follow up on a number of his invoices.

"I don't think there's a jobber in the state who is going to knock the PIK program, because farmers need to get on their feet, or we all are going to be broke," Watson says.

North Dakota is a state blanketed with large wheat farms, served by a comparative handful of petroleum marketers.

"Those are huge farms out there, and their (jobbers') entire business would be 10 to 15 accounts (apiece). When that business gets cut in half, that's going to hurt," explains Gerald Everett, executive director of the Northwest Petroleum Assn.

Some jobbers say this loss of business will create some cut-throat competition. They say many marketers already are scrambling for business, and their situation could turn from bad to worse.

"I just bid a county school. I cut it down to the bone, and I got beat by 2¢," says Watson. "That would be below my cost and into the freight. There's not too much you can do unless you go out and get someone's customers. That's the only way some of us are going to survive."

"I bet we lose 15% of the Illinois jobbers," says Marvin Meier, a rural multi-branded jobber. "The jobbers are already in trouble. They're going to have to make up their minds whether there is a possibility they want to stay with a sinking ship and lose everything they have."

Despite some dire predictions, a number of rural jobbers remain optimistic. They bask in the idea that the program is only temporary and find relief in the fact that idle lands still require some attention.

Rural jobbers have faced traditional farm price support programs before, as well as smaller-scale payment-in-kind programs. American Farm Bureau Federation officials say a similar PIK program was introduced as part of the "New Deal" package in the early 1930s; another was used to address a feed grain surplus in the early '60s.

"The farm business is still going to be there next year," says Michael Babcock, a rural Indiana jobber.

Federal officials do say, however, there has been some discussion about extending PIK another year. But the USDA's Graham says this remains just talk.

"PIK is going to affect us, but not to the point where it's going to hurt," says marketer John Alt, of northern Indiana.

Everett, of NwPA, says a collection of highway tax hikes may keep the diesel market from a crisis. He says the 5¢ increase in the federal motor fuel tax and state tax hikes of 4¢ in North Dakota and Minnesota may help keep his rural members solvent.

"This may help put people back to work. It means new equipment and highway construction, but we don't know how it will balance out," Everett says.

Although millions of acres will be idle—many farmers won't. Federal officials say some grazing will be allowed, and the land will require maintenance.

"It has to go to conservation use," explains Graham. "They'll need ground cover to keep the land from erosion. In 1983, there just will be no market production coming off the land."

"I have not found a farmer yet that I have talked to that is going to use a lot less fuel," says Greg Cattoor, a southwest Minnesota jobber. "You use a lot more fuel to plow than to harvest. A cover crop would require spraying, and in the fall that ground has to be plowed. They're (the farmers) are going to do everything except harvest the crop."

But some farmers say a little ground cover won't go a long way.

"You're going to seed your lands a couple of times, and that still takes fuel," says one Iowa farmer. "But it's more light work, if you don't have to harvest. It'll cut fuel demand in half on those acres."

—Donna Lawrence

Where PIK Will Have the Most Impact*

(By acreage committed)

Corn Growers		Wheat Growers	
Iowa	**6.2 mil.**	**North Dakota**	**5.3 mil.**
Illinois	**4.5 mil.**	**Kansas**	**4.1 mil.**
Nebraska	**4.4 mil.**	**Oklahoma**	**3.3 mil.**
Minnesota	**3.1 mil.**	**Texas**	**3.0 mil.**
Texas	**2.3 mil.**	**Nebraska**	**2.3 mil.**
Indiana	**2.3 mil.**	**South Dakota**	**1.9 mil.**
Ohio	**1.6 mil.**	**Minnesota**	**1.7 mil.**
		Colorado	**1.2 mil.**

*To participate in PIK, a farmer would have to leave idle 20% of his crop base. The farmer would receive payment-in-kind for 10% to 30% additional acreage he didn't harvest. In some cases, farmers are allowed to divert their entire base. USDA officials say at least 80% of the participating farmers idled at least 80% of their base.

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Industry Woes Led to 57 Refinery Shutdowns

Declining consumption, the economic recession, and excess capacity continued to take a heavy toll on the U.S. refining industry in 1982.

The Department of Energy, in a recap of what happened last year, said 57 refineries had shut down in the 12-month period ending Dec. 31.

The lost capacity totaled 1.1-million b/d. In addition, the government reported, another 1.5-million b/d were idle on Dec. 31. The latter, however, can be brought back on stream within 90 days if conditions warrant.

In 1981, DOE said 23 refineries with a capacity of 451,000 b/d closed their doors; and another 260,000 b/d were idle.

The shutdowns in 1981 were the first in the U.S. industry of any substance since the mid-1960s. During the interim, there had been steady growth, year in and year out.

Nor is the end yet in sight. Ashland Oil announced in mid-March, for example, that it is closing its 26,000 b/d refinery at Lexington, Ky., because it had been running at less than 50% of capacity.

Before the month was out, Chevron announced that it would cease production of gasoline and heating oil at its 168,000 b/d refinery at Perth Amboy, N.J., effective June 1. The plant had been running at less than half its rated capacity—70,000 b/d—since last fall.

Chevron will continue asphalt production at Perth Amboy and will use its terminal facilities for the time being. A spokesman said Chevron will take care of its East Coast markets via exchanges with other companies and from increased production at its 280,000 b/d refinery in Pascagoula, Miss., where a $1-billion upgrading program is nearing completion.

About 500 employees will be transferred or dismissed Chevron said; about 75 asphalt employees will continue at the plant.

Chevron said there was "little prospect" of making the big refinery profitable again because of shrinking demand and an excess of refinery facilities.

The two-year total for closed refineries now stands at 80 plants. In its roundup report, DOE made these comments:

- About 40% of the shutdown plants had been operating for 25 years or more, while another 40% had been on stream for less than five years.
- More than half of the shutdown refineries had crude oil distillation capacities of less than 10,000 b/d, while 90% had crude oil distillation capacities of less than 50,000 b/d.
- Most of the larger and older shutdowns were Midwest and East Coast. Most of the smaller and newer refineries that were shut down were Gulf Coast.

District/Refinery	Location	Crude Distillation Capacity b/d	Years in Operation
East Coast (PAD District 1)			
Amoco Oil Co.	Baltimore, Md.	15,000	25+
Ashland Oil, Inc.	Buffalo, N.Y.	64,000	25+
Seminole Refining, Inc.	St. Marks, Fla.	15,000	25+
Total		94,000	—
Midwest (PAD District II)			
Amoco Oil Co.	Sugar Creek, Mo.	104,000	25+
Ashland Oil, Inc.	Findlay, Ohio	20,400	25+
CRA, Inc.	Scottsbluff, Neb.	5,600	25+
CRA, Inc.	Phillipsburg, Kan.	26,400	25+
Dillman Oil Recovery, Inc.	Oblong, Ill.	1,200	4
E-Z Serv Refining, Inc.	Shallow Water, Kan.	9,500	25+
Energy Cooperative, Inc.	East Chicago, Ind.	126,000	25+
Industrial Fuel & Asphalt of Indiana, Inc.	Hammond, Ind.	7,600	25+
Kentucky Oil & Refining Co.	Betsy Lane, Ky.	3,000	25+
Mid-America Refining Co. Inc.	Chanute, Kan.	3,000	25+
Northland Oil & Refining Co.	Dickinson, N.D.	5,000	7
Phillips Petroleum Co.	Kansas City, Kan.	80,000	25+
Texaco, Inc.	West Tulsa, Okla.	50,000	25+
Texas America Petrochemicals Inc.	West Branch, Mich.	11,500	25+
Total		453,200	—
Gulf Coast (PAD District III)			
Bayou State Oil Corp.	Hosston, La.	3,000	25+
Bronco Refining Co.	Houston, Texas	2,250	1
Caribou-Four Corners Oil Co.	Kirtland, N.M.	2,400	17
Clinton Manges	Palestine, Texas	6,000	25+
Copano Refining Co.	Ingleside, Texas	11,100	4
Dow Chemical U.S.A.	Freeport, Texas	190,000	1
Eagle Refining Corp.	Jacksboro, Texas	1,800	1
Giant Industries, Inc.	Farmington, N.M.	13,500	7
Independent Refining Corp.	Pt. Neches, Texas	30,000	4
Independent Refining Corp.	Winnie, Texas	50,000	23
Lake Charles Refining Co.	Lake Charles, La.	28,000	2
Listo Refining Co.	Donna, Texas	3,500	4
Longview Refining Co.	Longview, Texas	14,000	25+
Natchez Refining Co.	Natchez, Miss.	16,000	2
Petraco-Valley Oil & Refining Co.	Brownsville, Texas	12,300	2
Placid Oil Co.	Mont Belvieu, Texas	8,500	2
Quitman Refining Co.	Quitman, Texas	6,600	4
Rio Grande Crude Refining	Brownsville, Texas	9,500	3
Rio Grande Recovery Systems, Inc.	Brownsville, Texas	1,000	2
Schulze Processing, Inc.	Tallulah, La.	1,760	4
Sentry Refining, Inc.	Corpus Christi, Texas	25,000	4
Shepard Oil Co.	Jennings, La.	10,000	4
Sooner Refining Co.	Darrow, La.	8,000	2
T & S Refining, Inc.	Jennings, La.	10,500	2
TARCO	Euless, Texas	6,000	20
Tipperary Refining Co.	Wickett, Texas	7,320	4
Vicksburg Refining Co.	Vicksburg, Miss.	7,900	4
Wickett Refining Co.	Wickett, Texas	8,000	25+
Total		493,930	–
Rocky Mountain (PAD District IV)			
C & H Refinery, Inc.	Lusk, Wyo.	180	25+
Caribou-Four Corners Oil Co.	Woods Cross, Utah	7,200	19
Glacier Park Co.	Osage, Wyo.	10,000	4
Husky Oil Co.	Cody, Wyo.	11,500	25+
Morrison Petroleum Co.	Woods Cross, Utah	6,300	8
Sage Creek Refining Co.	Cowley, Wyo.	1,000	17
Texaco, Inc.	Casper, Wyo.	21,000	25+
Total		57,180	—
West Coast (PAD District V)			
Gibson Oil & Refining Co.	Bakersfield, Calif.	4,600	3
Lunday-Thagard Oil Co.	South Gate, Calif.	12,000	14
Sabre Oil & Refining, Inc.	Bakersfield, Calif.	10,000	10
United Independent Oil Co.	Tacoma, Wash.	730	7
West Coast Oil Co.	Oildale, Calif.	21,000	25+
Total		48,330	—
U.S. Total		**1,146,640**	–

SIGMA Study Shows Bay and Pump Services on Upswing

With the continuing disappearance of service stations from the nation's highways, are those that are left upgrading their customer relations and repair services?

The answer is yes; or, at least that's an inference that can be drawn from the latest statistical profile of its membership prepared by the Society of Independent Gasoline Marketers of America (SIGMA).

The profile says that the number of full-service and split-island facilities increased among the SIGMA membership stations in 1982 at the expense of self-service and mini-service outlets.

It also noted that the number of outlets that perform auto maintenance (those with motor fuel and lube bays) rose from 6.7% in 1981 to 15.6% in 1982.

Said SIGMA: "That increase came despite decreases in recent years in the number of stations nationwide that provide auto maintenance."

In summary form, following is the type of service at stations supplied by SIGMA members:

	1982	1981
Full service	9.1%	7.6%
Self-service	64.7%	67.3%
Mini service	7.8%	15.5%
Split-island	18.6%	9.6%

A comparable summary deals with the types of operation at stations supplied by SIGMA members. Here are the highlights of this profile:

	1982	1981
Motor fuel & incidentals	48.5%	54.1%
Motor fuel & car wash	0.9%	1.6%
Motor fuel & C-stores	25.2%	30.0%
Motor fuel & lube bays	15.6%	6.7%
Motor fuel & other	8.3%	5.0%
Truck stops	1.5%	2.6%

The in-depth look at its rank and file showed that SIGMA member companies sold 14.5-billion gal. of motor fuel in 1982, or 12.5% of the U.S. total, through more than 19,000 outlets in all 50 states. SIGMA members owned 10,600 of the 19,100 companies involved.

Membership gallonage ranged from as little as 1-million gal. a year to more than 500-million gal. a year in 1982, with some companies servicing only a few outlets and others more than 500.

The "typical" member, SIGMA said, supplied 65-million gal. of motor fuel to 86 retail outlets. This mathematical average also said that the "typical" member had 257 direct motor-fuel related employees and 5.4 employees per controlled outlet.

"During 1982," a highlight summary said, "SIGMA members, like other segments of the petroleum industry, competed fiercely for the chance to fill the fuel tanks of American automobiles and trucks."

In 1982, the association said, one out of every five member companies sold more than 100-million gal. of motor fuel. About half of the membership sold between 10-million and 60-million gal. Only 12%, or fewer than one in every eight members, sold less than 10-million gal.

These figures vary significantly from the 1981 results, SIGMA said, when more than one out of every three member companies sold less than 10-million gal.

"SIGMA's member companies pumped less motor fuel than in the previous year (nearly 14.5-billion gal. in 1982 versus more than 18.5-billion gal. in 1981)," the highlight summary said.

"However, they continued to expand their operations by adding retail outlets. Although they continued to control approximately the same number of outlets, the total number of outlets supplied increased by nearly 2,000 for a total of 19,100.

Crude Futures Launched At Two Trading Houses

Chicago Board of Trade (above) buzzed with 3,753 crude oil futures contracts, while the New York Mercantile Exchange traded 1,909 on the contracts' debut day, March 30. CBoT also launched its #2 oil futures April 4, with 77 contracts traded.

Gas Decontrol Stalled, Political Lines Drawn

The battle over decontrol of natural gas prices has begun in earnest in Congress, but it could be a long time before the issue is resolved.

After a long delay, President Reagan earlier this year sent his proposal for gas decontrol to Capitol Hill, where several similar measures already were in the hoppers. Along with them are other measures that would not only keep controls in place, but also free gas distributors from the high-priced contracts many are locked into.

Heating oil jobbers have long backed natural gas decontrol on grounds that controls have held prices artificially low and created a wide discrepancy between oil and gas prices. Oddly, however, the administration says it favors decontrol because it promises to lower consumer gas prices [NPN—April '83, p10].

Energy Secretary Donald Hodel recently told the Senate Energy Committee the administration believes that removing controls on so-called "old gas"—from wells drilled before 1977—will prompt gas producers to produce more from such wells. Because old gas costs less to produce, Hodel said, increasing production from those wells will keep gas prices down, even if producers are getting higher prices. Currently, old gas sells for a controlled price of about $1.38 per thousand cubic feet, while gas from newer wells sells at $3.30.

Democrats on the Senate panel made it clear that any decontrol legislation will have to include the equivalent of a windfall profits tax to gain their votes—and more importantly, the votes of Democrats who control the House. The issue also may become a regional one rather than one dominated by party politics. Republicans and Democrats alike from the Northeast and Midwest have spoken out against decontrol, while those from both parties in producing states favor the White House plan.

The latest decontrol proposals differ from previous versions in that they pay little attention to decontrol of new gas. Controls on post-1977 production will expire in 1985, even if no action is taken by Congress. Recognizing that it may take that long to decontrol any gas prices, the current legislation concentrates on the older wells, (which would remain under controls until they are exhausted, unless the law is changed).

Congressional sources say that thinking is reasonable. "Barring a miracle," one Senate Energy Committee staffer told *NPN*, "there isn't much chance for decontrol this year. It will take a major effort to get (decontrol legislation) passed by sometime next year."

EPA Hounding Tamperers Of Catalytic Converters

The EPA also is citing muffler shops and repair facilities for violating the Clean Air Act. These outlets may encourage fuel-switching by tampering with vehicles' emissions systems.

Post-1975 unleaded vehicles are equipped with catalytic converters, anti-pollutant devices which reduce noxious emissions through a chemical reaction. Service personnel have been known to remove the device or the nozzle restricter which accommodates the larger fuel nozzles on leaded fuel pumps.

Since last October, the EPA has cited seven repair facilities and muffler shops across the country for such tampering.

"Our enforcement efforts are primarily on shops that remove catalysts and other emissions parts," says Jim Sakolosky, EPA enforcement chief in Washington D.C. Sakolosky says emissions increase 200% to 800% after catalytic converters are removed.

If federal enforcement fails, state and local government efforts may succeed. Since early this year, the EPA has been offering grants for public education campaigns and local inspection programs.

"State and local governments are much closer to the problem. Localities have a larger presence in an area," says Kozlowski.

Chicago received $75,000 for a program that would allow inspectors to check the city's gasoline stations and fleet operations for gasoline tanks overloaded with lead. Inspection teams take samples from a tank through the pump. If on-site tests reveal excessive lead levels, the samples face laboratory tests. Violators can be fined under the city's consumer protection ordinances, city officials say.

Since January, just less than $1-million out of the $84-million in federal dollars available under the Clean Air Act have gone to about 20 local and state governments.

EPA officials say 40 states ban fuel-switching, but add that enforcement is still a problem.

"I'm almost positive that the enforcement of tampering laws is not done uniformly or systematically," says Perriconi.

EPA officials say 12% of the nation's unleaded vehicles have been subject to fuel-switching, and 17% of the unleaded fleet, to emissions tampering.

But in random inspections, only an average 1% of gasoline marketers are found violating federal standards. Improper fueling occurs more often on the driver level, says a transportation analyst who has studied the problem for the U.S. Department of Energy.

"Misfueling is primarily a consumer problem," he says. "With the millions of misfuelers on the road, there's no effective way to go after them."

The Push to Inspect

The EPA focuses its enforcement efforts at the wholesale level, leaving individual enforcement to the states. EPA officals say, however, consumers rarely are fined for fuel-switching.

EPA records show 30 states are required to adopt emissions control programs under the Clean Air Act. Less than half the states have complied with the act, and 13 could lose federal funds for noncompliance.

"Most states (which comply) require annual inspection of all cars or all cars over 12 to 15 years old, says Phillip Lorang, an EPA inspection chief based in Michigan. "The inspections include measurement of what's coming out of the tail pipe. Some also include inspecting under the hood to see if parts have been removed."

EPA officials also encourage states to adopt laws requiring an inspection before a title transfer of a used car. An EPA official based in Chicago, however, says he only knows of three states with such inspection laws.

"In Minnesota, no person is able to transfer the title of a car unless all systems are in place and in operating condition. In Illinois, there is no recourse," says Perriconi.

When asked why such standards couldn't be incorporated into federal law, he said, "Have you seen the Clean Air Act? It is hard to change federal law. You simply carry out the law." **NPN**

How Misfueling Rates Have Increased*

	1978	1979	1980	1981
Domestic cars	3.9	4.5	5.7	7.1
Import cars	14.5	12.5	6.1	5.5
Light trucks	—	—	—	19.8

***U.S. Department of Energy percentages of the misfueling rate—the percentage of the total gallons leaded gasoline consumed by vehicles required to use unleaded fuel.**

Motorists' Fuel-Switching Depends on Auto's Age

Product price is not the major reason consumers illegally fill their cars with unleaded gasoline, according to a study last year for the U.S. Department of Energy.

Moreover, it's the age of the vehicle that tempts the misfueler. The older the car, the less one might worry about the effects of misfueling, says Robert Crawford, a transportation systems analyst who prepared the study for DOE.

"With a brand-new car in the first year, misfueling has the potential for voiding a warranty. When cars are under a warranty, there's a strong incentive to keep it in force. Owners of new cars tend to take better care of their cars," he says.

Misfueling involves vehicles equipped with anti-pollution, catalytic converters designed to use unleaded gasoline. When such vehicles are filled with regular-grade gasoline, the operator or station attendant is in violation of federal law.

The misfueling rate, therefore, represents the percentage of the total gallons used by such vehicles that is leaded regular.

The research shows that a one-year old vehicle is misfueled about 2% to 3% of the time. Whereas, misfueling rates for a seven-year-old (May 1975) vehicle in 1981 are about 13%.

Fuel-switching patterns also can be traced by regions. The South-Central region of the country has the highest misfueling rates, ranging from 7% to 14%. However, the New England and Mid-Atlantic regions have the lowest levels, extending from 2% to 4%.

Research indicates misfueling rates are higher in predominately rural areas and lower in urban areas.

"Your major cities have major air pollution problems, and you are also dealing with people who are city dwellers and less likely to work on their own car," says Crawford. "But people who live out in the country are much more comfortable with mechanical equipment, and they certainly know how to take off a catalyst," says Crawford.

A seasonal analysis of the misfueling rate suggests that vehicle performance is not a primary motivation for fuel-switching. Low humidity levels which generally occur during winter can lower the moisture content of the fuel charge and increase engine knock. However, seasonal data didn't display higher misfueling rates in the winter months.

Because it's a federal offense for service station operators to knowingly fill unleaded tanks with leaded fuel, misfueling rates at full service retail outlets ought to be lower than those at self-service pumps. The 1981 data supports this premise: misfueling at self-service pumps range from 9% to 10%, while misfueling at full-service outlets occurs only about 4% to 5% of the time.

June 1983 $4.00

Amoco Tops Again in Share of Market

Can Arco's Express Cashier Boost Profits?

Car Racer Petty Turns into Oil Jobber

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How Ron Hall Is Changing Things at Gulf

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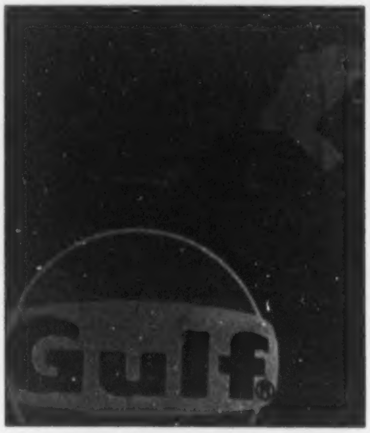
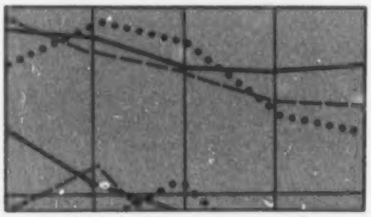


When word got out last year that Gulf was reorganizing its refining and marketing operation, some oil people may have looked at it as more musical chairs. That is, until it was learned that former Shell exec Ronald E. Hall had been tagged Gulf's senior vice president of marketing. **Page 36.**

Cover design by Claude J. Zajakowski Design, Chicago



Even though its volume slipped 50.3-million gal. in 1982, Amoco is still the No. 1 gasoline marketer in the nation, for the second year in a row, according to Lundberg Survey, Inc. the national handicapper. **Page 27.**

Express Cashier Pay Here
Express Cashier Pay Here
xpress PrePay
Express Cash

Arco is trying to find out whether gasoline dispensers operated by paper money can be used profitably at its outlets in the Los Angeles vicinity. And, early results from the three units are signaling some measure of success. **Page 48.**

• TRENDS

Marketers Getting Bullish On Government Intervention

A frustrated and even frightened segment of oil marketing—branded and unbranded wholesale distributors—believes it is being pushed into a corner by the major oil companies, with perhaps the only exit being some form of "political action."

This means calling in the federal government in hopes that it can help preserve the distributor's role in the industry. Marketers are quaking over tales about even the *efficient* ones among them who are going belly-up these days. [See page 5.]

The growing support for a "political solution" to their marketplace problems was evident at recent spring meetings of the Society of Independent Gasoline Marketers of America (SIGMA) April 23-25 in Denver and National Oil Jobbers Council (NOJC) May 8-11 in New York. An awareness of the distributors' anxiety and what it could lead to also hung over the American Petroleum Institute's Marketing Department mid-year meeting in Denver April 25-27. [See story page 29.]

The two major distributor groups express extreme concern over what they perceive to be marketplace chaos touched off and kept alive by some majors with subsidized retail operations.

Some leaders of the distributor groups are convinced that some major company retail pricing practices aren't profitable and are being subsidized with upstream crude oil profits.

"They (the majors) are determined to take over metropolitan markets at any cost," says a large independent. "All they care about right now are their market shares and unit throughputs. Their field people aren't responsible for profits—just volume."

All majors deny such charges, especially those alleging subsidization with upstream profits. 'I can't believe any major is subsidizing its retail operations," says George Babikian, Arco's top marketing man.

Nevertheless, with the allegations and denials continuing to swirl around the industry, marketers at all three spring meetings expressed concern that the turmoil and chaos at retail will force distributors to push for legislative and/or legal solutions. Just how serious the distributors are about turning to political solutions was perhaps best illustrated at SIGMA's meeting.

This group, long known for holding "open" meetings, barred all non-members (including the press) from its legislative committee meeting where efforts were made to hammer out a concensus position on what actions to take or support. Even after hours of debate, however, SIGMA could only agree to modify its position on market restructure legislation and call for an emergency meeting of its board of directors later this month in Washington for further discussion.

As a result, SIGMA might adopt a tougher stand than previously. It would "implement" (rather than "explore") political proposals which would "prohibit subsidization of downstream operations with upstream revenues."

It is understood that SIGMA is considering a wide range of political actions. Various options recommended by the legislative committee hit snags in Denver, however, resulting in a call for the "emergency" board meeting.

NOJC, which convened shortly thereafter in New York, seemed less anxious to push for major restructuring, such as divorcement or divestiture [NPN—Oct. '82, p10]. Instead, NOJC seems to pin most of its hopes on amending the Petroleum Marketing Practices Act (PMPA) and on legislation that would bar credit card surcharges.

"Our members are extremely concerned and frustrated,' said Phil Chisholm, NOJC executive vice president. Although the leadership does not support divorcement/divestiture bills, he adds, the staff was told to prepare a thorough backgrounder on them for the exec committee later this month.

NOJC believes certain amendments to the PMPA, if carefully worded to keep from snaring jobbers, could bring some relief to its members.

"Basically, we want to see something done to equalize things," Chisholm says. Jobbers want to get the same rebates, competitive price allowances, and so forth given to dealers, he adds, and NOJC's leadership believes certain PMPA amendments could bring this about.

Positions could begin to crystallize, following SIGMA's Washington meeting. But the distributor groups seem bound and determined to push their political proposals, barring a sudden big improvement in marketplace conditions.

—Marvin Reid

• MARKETPLACE AT A GLANCE

AVERAGE GASOLINE PRICES IN THE U.S. (¢ per gal.)

MARCH	Gasoline (All types)	Leaded Regular	Unleaded Regular	Leaded Premium
U.S. City Avg.	$1.135	$1.064	$1.151	$1.274
Regions:				
Northeast	1.177	1.113	1.178	NA
North Central	1.145	1.095	1.164	NA
South	1.123	1.048	1.140	NA
West	1.104	1.011	1.129	1.278

Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

STOCKS (Add 000 bbl.)

	4/29/83	4/30/82
Gasoline (total)	224,888	227,940
Gasoline (unleaded*)	92,169	89,026
Kerosine **	35,847	36,609
Distillates	107,797	111,688
Residual	43,720	55,023

**Included in gasoline total.*

***Jet kero only; totals no longer kept by API and DOE.*

Source: American Petroleum Institute.

NPN

NATIONAL PETROLEUM NEWS JUNE 1983

Amoco Retains Top Slot in Share of Market, While Arco Scores a 24% Gain in Gallonage

Even though its volume slipped 50.3-million gal. in 1982, Amoco is still the No. 1 gasoline marketer in the nation, for the second year in a row, according to Lundberg Survey, Inc., the national handicapper.

Amoco wound up the year with 7.36% of the market, more than a half-billion gal. of gasoline ahead of second-place Shell at 6.78% and third-place Exxon at 6.64%. Gulf, fifth in 1981, and Mobil, sixth in the same year, vaulted over Texaco which dropped from fourth to sixth place. Gulf is now the fourth leading marketer, and Mobil is fifth.

Atlantic Richfield, which abandoned credit cards and went to cash pricing in 1982, scored a whopping 24% gain in its gallonage—almost 935-million gal. more than in 1981 [NPN—Dec. '82, p27]. The surge enabled Arco to pass Chevron in the gasoline derby and take over the seventh position.

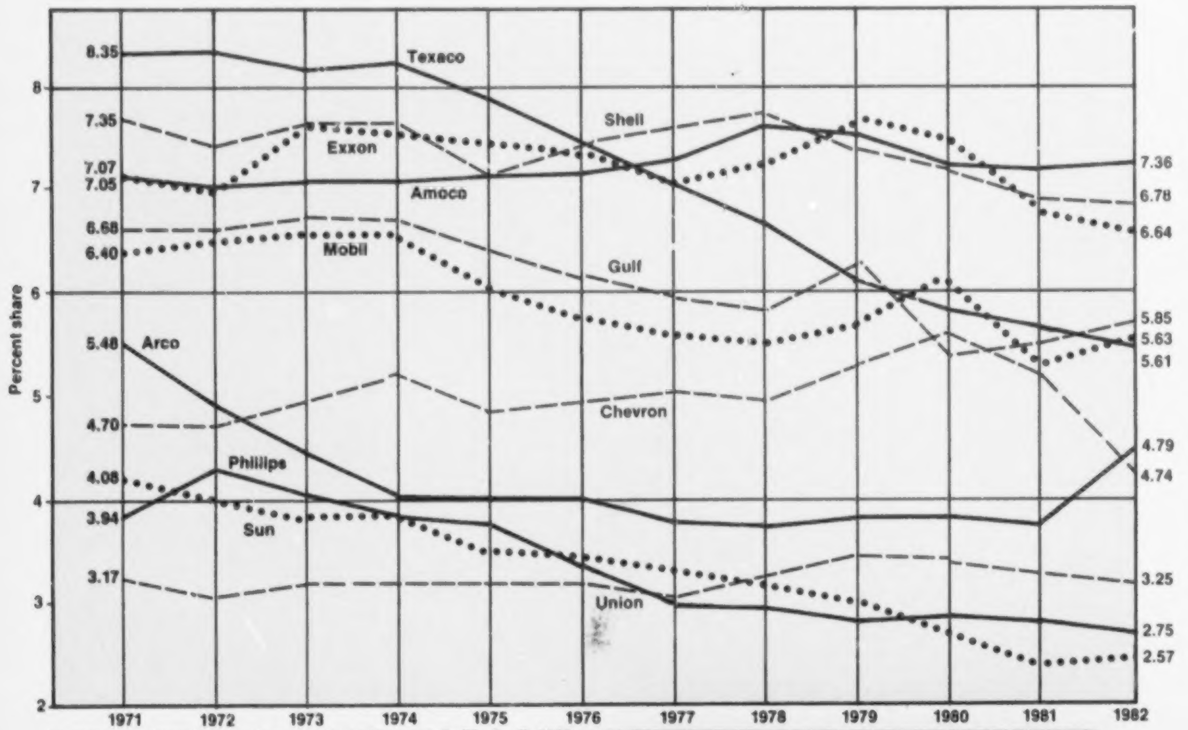
Lundberg reported the 1982 taxable gasoline volume was 100.6-billion gal., down 1.64% (or 1.7-billion gal.) from the preceding year's total of 102.3-billion gal. [See table for details.] The peak year for gasoline sales was 1978, when volume exceeded 115.3-billion gal.

For the statistical minded, this is a drop of 14.9-billion gal. of gasoline in four years—a staggering decline in view of the many years of constant growth in gasoline consumption. That figure alone dramatizes, more than anything else, how the gasoline pie has shrunk in recent years.

Top 11 Marketers: A Five-Year Overview

	1982		1981		1980		1979		1978	
	Rank	% Share	Rank	% Share	Rank	% Share	Rank	% Share	Rank	% Share
Amoco	1	7.36%	1	7.28%	3	7.40	2	7.48%	2	7.71%
Shell	2	6.78	2	6.89	2	7.44	3	7.30	1	7.70
Exxon	3	6.64	3	6.81	1	7.54	1	7.65	3	7.28
Gulf	4	5.85	5	5.69	7	5.39	4	6.36	5	5.83
Mobil	5	5.63	6	5.38	4	6.01	6	5.78	6	5.55
Texaco	6	5.61	4	5.77	5	5.95	5	6.01	4	6.75
Atlantic Rich.	7	4.79	8	3.80	8	3.87	8	3.89	8	3.79
Chevron	8	4.74	7	5.21	6	5.77	7	5.30	7	4.76
Union	9	3.25	9	3.31	9	3.50	9	3.49	9	3.28
Phillips	10	2.75	10	2.88	10	2.83	11	2.85	11	3.02
Sun	11	2.57	11	2.55	11	2.74	10	3.01	10	3.20

Source: Lundberg Survey, Inc., May 1983 and prior reports.



Souce: Lundberg Survey, Inc., North Hollywood, Calif., April, 1983.

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The Lundberg figures confirm that the majors, as a whole, continue to dominate gasoline marketing. They had 64.73% of the total gallonage in 1982, up a very modest 0.03% from 1981. The top 11 companies led the way, with 55.96% of the national volume, compared with 55.59% in the year before.

At the same time, independent marketers picked up a bit of gallonage in 1982, according to Lundberg. As a group, they had 5.58% of the national market, up 0.28% from their 1981 total of 5.4-billion gal.

More Downs Than Ups In First-Quarter Reports

Exxon and Standard of California had surprisingly strong first-quarter earnings, although the rest of the top companies (except for Mobil), were all on the down side.

Exxon netted more than $1-billion in the first three months of 1983, while Socal earned $310-million. They were up 26.3% and 34.8%, respectively, over the comparable periods of 1982. Mobil, with a first-quarter net of $250-million, had a plus sign of 2.5%.

A recent summary by *The New York Times* showed that Exxon Corp. generated more revenue in 1982 than any other non-financial business firm in the land but, despite that, ranked only third in the matter of profits.

The Houston-based oil company had revenues of $103.6-billion last year, 59% more than second place A.T. & T. with $65.1-billion. Others in the first five were Mobil, $63.8-billion; General Motors, $60-billion; and Texaco, $48-billion.

Amoco, Shell and Arco, the market leaders in volumes and prices (see preceding story), made money in the first quarter but not nearly as much as in the comparable period of last year because of depressed prices.

In the *Times'* summary of the top 25 nonfinancial companies, 12 oil companies were listed, as follows (with position number in parentheses):

Exxon (1), Mobil (3), Texaco (5), Standard of California (7), Gulf (10), Standard Oil (Ind.) (12), Atlantic Richfield (13), Shell (17), Occidental Petroleum (19), Sun (22), Phillips (23), and Tenneco (24), the newspaper reported.

Exxon has been No. 1 in gross revenues since 1978, when it displaced A.T. & T., which is soon to be broken up. At that, however, Exxon's 1982 revenues were down 10% from the 1981 total of $115-billion.

1983 First Quarter Oil Company Income

(Add 000)

	1st Otr. 1983	1st Qtr. 1982	% Change
Exxon	$1,060.0	$839.0	26.3%
Mobil	250.0	244.0	2.5
Texaco	319.0	367.0	(13.1)
Standard (Ind.)	399.0	470.0	(15.1)
Stand. of Calif.	310.00	230.0	34.8
Atlantic Richfield	310.4	365.4	(14.3)
Shell	246.0	345.0	(28.7)
Gulf	182.0	288.0	(35.8)
Tenneco	111.0	129.0	(14.0)
Standard (Ohio)	277.0	455.0	(39.1)
Phillips	129.0	192.0	(32.8)
Sun	90.0	124.0	(27.4)
Getty	157.8	179.7	(12.2)
Union Oil	128.3	168.5	(23.9)
Amerada Hess	5.0	(16.2)	—
Ashland (a)	(14.5)	(11.6)	—
Kerr-McGee	23.7	29.2	(18.8)
Diamond Shamrock	4.6	64.6	(928.8)
Murphy	27.9	33.8	(17.5)
American Petrofina	0.3	15.9	—
Crown Central	(10.5)	(1.0)	—
Southland Corp.	7.7	9.5	(18.9)
Total	(37.0)	4.5	—
Pennzoil	41.3	40.0	3.3
Tesoro Petro. (b)	4.1	(3.8)	—
Tosco	(46.6)	0.5	—

(a) second quarter since fiscal year ends 9/30; first half earnings were $14.6-million vs. $35.9-million in 1962; (b) Second quarter since fiscal ends 9/30; first half earnings were $14.5-million vs. $17.2-million last year.

Du Pont and Ethyl Corp. Charged with Price Fix

It isn't clear how prices will be affected, but the Federal Trade Commission (FTC) has charged E. I. du Pont de Nemours and Ethyl Corp., the two largest lead additive makers, with anticompetitive price fixing. Both firms have indicated they'll fight the charges.

The FTC, which voted 3-1 to bring the charges, did not accuse Ethyl and Du Pont of a "conspiracy" to fix prices, per se. But the commission alleges both firms disclosed price increases in such a way as to tip their hands to the one another prior to the public notice of price changes.

These "preview announcements," the FTC said, were used to give other companies in the industry a chance to match any changes or give Ethyl and Du Pont a chance to adjust them, if the other major supplier failed to follow suit. The FTC says that once the two companies arrived at a price, smaller firms had to follow suit to survive.

The FTC charges were accompanied by an agency order requiring the two lead additive makers to abandon all "price matching" tactics. Under the order, neither company could disclose pending price changes to outside entities before the changes are announced publicly to customers.

The lone vote against the price-fixing charges came from FTC chairman James Miller. Miller called the ruling a "bold adventure" because it extends the definition of price fixing to cases in which no conspiracy has been proved.

Social Security Taxes Will Escalate in 1984

Like most employers, jobbers will find the taxes they pay under the Social Security system will be higher next year. Those who normally pay self-employment taxes, as well, will be paying substantially more to Social Security.

Both developments stem from the "reform" of the retirement system signed into law by President Ronald Reagan in April. Taxes for both employers and employees will rise from 6.7% of wages to 7% next January. In 1988, they will increase to 7.15% and in 1989, to 7.51%. The increase in employee taxes will be partly offset by a credit on income taxes, but that won't be available to employers.

Self-employment taxes will be boosted by 33% in January, bringing them in line with the amount of taxes that normally would be paid by both employer and employee on the same amount of wages. The large tax hike will be partly reduced by an income tax credit as well. The credit applies only to 1984, however.

running the pipeline around the waters of Puget Sound, instead of through it.

Even with a somewhat favorable reaction to the proposals from the siting committee, Northern Tier did not rate its chances for final approval as certain enough.

Major investors in the Northern Tier Pipeline project reportedly were in agreement with the decision to abandon the pipeline project. Those major investors include Getty Oil Co., Los Angeles, Burlington Northern Co. and CENEX, a regional farm cooperative based in St. Paul, Minn.

Despite its $3.5-million invested in the project, CENEX says it "won't experience a lot of negative impact because there always was a lot of uncertainty with Northern Tier." CENEX in recent years has purchased from Canadian sources about 40% of its crude stock for its 42,000 b/d Laurel, Mont., plant and its 54,150 b/d McPherson, Kan., plant. The company says that is has improved upon its contracts for Western Canadian crude and also has recently increased its own production.

On the other hand, Gerald Everett, executive director of the Northwest Petroleum Assn., (NWPA), says the abandonment of the Northern Tier project will have long-term effects for the central United States.

"We have relied on buying Canadian crude for some time, but now we purchase it on an exchange arrangement. Because of that, that supply could be cut off, should things erupt in the Mid-East," Everett said. Should that occur, Canada would be forced to cut exports in order to supply its internal energy needs.

"We had great hopes for that pipeline," said Everett. "A while back, refiners in the upper Midwest said that with an alternative supply of domestic crude, they could have doubled their 260,000b/d supply."

The crude pipeline reportedly would have doubled supply for upper Midwest refineries.

Small Planes Might Fly on Unleaded, Says FAA

The idea of using automotive gasoline in small general aviation aircraft apparently has caught the fancy of fliers and aircraft manufacturers alike.

After giving the Experimental Aircraft Association (EAA) permission to test auto fuel in a group of Cessna 150 planes, the Federal Aviation Administration (FAA) has been bombarded with requests to expand the experiment and last April held a public hearing to hear from aircraft manufacturers and pilot groups on the subject [NPN—Oct. '82, p12].

FAA officials now are reviewing the remarks made at the public hearing as well as written comments and were expected to issue several decisions by last month. The primary decision will be whether to expand the experimental use of motor fuel to aircraft other than the Cessna 150. If so, the FAA also will decide whether to streamline the approval procedure for using the gasoline in small aircraft.

The key to further use of gasoline in aircraft, according to FAA officials, is the distribution system. Currently, FAA rules say the pilot in command of an aircraft is responsible for insuring that the fuel he is using meets FAA standards, whether it is aviation gasoline or automotive gasoline. Any arrangements for supplying auto gasoline to airfields will have to have some method built in for monitoring the quality of the fuel.

On-Road Diesel Demand Tops 14.6-Billion Gal.

Trucks, buses and passenger cars consumed more than 14.6-billion gal. of diesel fuel in 1982, according to Lundberg Survey.

Texas was the No. 1 user of on-road diesel last year, with California second—a reversal of the two states' positions in gasoline consumption. For years, California has been the nation's biggest consumer of gasoline, with Texas coming in second.

The Lundberg Survey showed that Texas required close to 1.5-billion gal. of diesel in 1982, and California needed almost 1.3-billion gal. to satisfy its needs.

A state-by-state report follows:

State	Total
ALASKA	13,604
ALABAMA	295,625
ARKANSAS	239,641
ARIZONA	186,044
CALIFORNIA	1,268,629
COLORADO	189,004
CONNECTICUT	122,251
WASHINGTON D.C	19,280
DELAWARE	32,480
FLORIDA	572,415
GEORGIA	538,958
HAWAII	17,607
IOWA	280,402
IDAHO	87,503
ILLINOIS	546,705
INDIANA	602,342
KANSAS	209,107
KENTUCKY	247,797
LOUISIANA	313,704
MASSACHUSETTS	184,936
MARYLAND	193,396
MAINE	66,907
MICHIGAN	354,477
MINNESOTA	282,383
MISSOURI	382,747
MISSISSIPPI	176,096
MONTANA	108,169
NORTH CAROLINA	446,021
NORTH DAKOTA	96,965
NEBRASKA	140,326
NEW HAMPSHIRE	29,460
NEW JERSEY	374,381
NEW MEXICO	147,304
NEVADA	84,386
NEW YORK	400,780
OHIO	655,328
OKLAHOMA	362,073
OREGON	248,270
PENNSYLVANIA	653,639
RHODE ISLAND	25,601
SOUTH CAROLINA	246,465
SOUTH DAKOTA	77,120
TENNESSEE	405,593
TEXAS	1,490,326
UTAH	113,679
VIRGINIA	355,998
VERMONT	15,745
WASHINGTON	215,049
WISCONSIN	301,754
WEST VIRGINIA	100,205
WYOMING	108,556
Total U.S.	14,627,233

Shell, Exxon Lead Pack as Top TV Ad Spenders in '82

U.S. oil companies tightened their belts a bit in 1982 in their annual spending on television commercials for product promotion, according to the Television Bureau of Advertising.

Total TV spending for gasoline, lubricants and "other fuels" in 1982 amounted to $144.9-million, down 11.1% from 1981's total of $163.2-million. The television bureau identified "other fuels" as "almost anything liquid, like fuel oil, diesel fuel, or gasohol, for example."

The annual report has two basic categories—national "spot" television and "network" TV. 1982 spending for "spot" TV amounted to $90.1-million, up 7.3% over 1981. But in the network TV category, the shrinkage was significant—30.8%. The figures were $54.9-million in 1982, versus $79.2-million in 1981.

Mobil was the only oil company to be listed among the nation's top TV spenders. At that, however, it was ranked a mere 75th, with a total of $30.3-million for both spot and network TV. And, Mobil's budget included TV costs for Montgomery Ward and another subsidiary. So not all of the expenditures could be ascribed to oil products.

By way of contrast, Mobil's $30.3-million was far, far removed from such really big time operators as Proctor & Gamble, which led the 1982 list with $576.9-million, and General Foods, in second place with $303.2-million.

In the more limited category of gasoline and lubricant promotional spending, a special break-out made available to *NPN* by the TV bureau showed that Mobil spent only moderately on spot TV and nothing on national TV commercials, for only $6-million, all told.

Shell was the biggest spender in 1982 in this more limited definition of TV advertising. Shell spent a total of $15.7-million, besting Exxon by $700,000. Texaco was third with $10.8-million while Sun ranked fourth, with $10.0-million.

An interesting aspect of the 1982 TV fare, obviously reflecting the marketplace battles for gallonage, was Atlantic Richfield's impressive increase of 492% in spot TV advertising. Arco jumped from a mere $746,000 in 1981 to $4.4-million in 1982.

Exxon also increased its spot budget significantly—74%—from $6.2-million in 1981 to $10.8-million in 1982. But at the same time, Exxon gutted its national TV budget, reducing it from $20.6-million in 1981 to $4.2-million in 1982, a drop of 80%. [See table on this page for details.] NPN

TV Advertising in 1982: How Much the Companies Spent

Spot TV

	1982 (Add 000)	1981 (Add 000)	% Change
Standard Oil (Ind.)	$12,562	$11,631	+ 8%
Exxon	10,804	6,223	+ 74
Standard Oil (Calif.)	7,756	8,518	− 9
Union Oil of Calif.	6,816	4,291	+ 59
Gulf	6,756	9,624	− 30
Shell	6,243	7,416	− 16
Mobil	6,006	8,993	− 33
Getty	4,621	3,202	+ 44
Atlantic Richfield	4,414	746	+ 492
Sun	3,500	1,799	+ 95
Texaco	3,243	3,746	− 13
Burmah Oil	3,048	2,856	+ 7
Ashland	2,796	2,069	+ 35
Pennzoil	2,623	2,522	+ 4
Quaker State	2,466	2,054	+ 20
Standard Oil (Ohio)	2,092	2,621	− 20
Phillips	986	2,092	− 53
Witco (Kendall)	697	681	+ 2
Amerada Hess	613	—	Inf.

Network TV

	1982 (Add 000)	1981 (Add 000)	% Change
Phillips	$9,731	$ 8,780	+ 11%
Shell	9,511	6,145	+ 55
Texaco	7,558	12,016	− 37
Sun	6,461	5,367	+ 20
Quaker State	5,056	3,068	+ 65
Pennzoil	4,860	5,833	− 17
Exxon	4,213	20,577	− 80
Conoco	3,404	7,075	− 52
Ashland	1,700	3,190	− 47
Ford (Motorcraft)	720	1,305	− 45
Witco (Kendall)	609	820	− 26
Gulf	414	205	+ 102
Getty	320	—	Inf.

Source: Television Bureau of Advertising, from BAR, April, 1983.

The Leaders (Combined Totals)

	1982 (Add 000)	1981 (Add 000)	% Change
Shell	$15,754	$13,561	+ 16%
Exxon	15,017	26,800	− 44
Texaco	10,801	15,762	− 31
Sun	9,961	7,166	+ 39
Pennzoil	7,483	8,355	− 10

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Ranking The Top Marketing Companies

Corporate earnings took another beating in 1982 as glutted marketplaces and diminishing consumption took their toll. This doesn't mean that companies did not make money in that 12-month period. That they did. But they did not make as much in 1982 as they had the year before. And, they were nowhere near the lush years of 1978-80 when profits leaped skyward.

Minus signs dominated the year-end reports of most of the top 20 oil companies. Only a few—notably Union Oil and Atlantic Richfield in the heavyweight division and Tenneco and Diamond Shamrock down the line—were on the plus side.

The "billionaire's club," the elite group of oil companies with annual earnings in excess of $1-billion, lost two of its members in the 1982 scramble. Gulf, with a 26% slump in its 1982 profits, dropped to the $900-million level. Sun, which had just squeaked into the club in 1981 with $80-million to spare, saw its profits dip 50% in 1982 to a little more than $500-million.

Current members of the "club" are Exxon, Mobil, Texaco, Standard of California, Standard of Indiana, Shell, Atlantic Richfield and Standard of Ohio, in that descending order (See next several pages for detail reports on the various companies).

Cities Service Co., besieged by a Texas suitor of whom it wanted no part, found an unexpected white knight in Occidental Petroleum Corp., a multi-billion-dollar international producer based in Los Angeles. Occidental, interested only in Citgo's domestic reserves of crude oil and natural gas and its unexplored acreage, quickly sold off the gas company. Then early in 1983 it also sold Citgo's marketing and refining facilities to The Southland Corp., the big C-store chain which is now ranked as the nation's biggest independent gasoline marketer.

Thus, one more familiar face disappeared from the national scene, joining Conoco and Marathon which were merged into DuPont and U.S. Steel Corp., respectively, in earlier merger battles. Neither Conoco nor Marathon published separate revenues and earnings statistics for the year 1982. They were rolled in with their new corporate owners and buried in the masses of financial data.

There were some significant changes in the pecking order of the companies at the end of 1982. *NPN* uses company assets as its yardstick since sales and earnings vary from year to year and cannot be considered good measuring tools. All of the companies in the listing have assets of $1-billion or more. Exxon is by far the titan of them all with assets of $62.2-billion. Mobil retained its iron grip on the No. 2 position while Texaco, even though it has been retrenching madly, remained in third place. Standard of Indiana bettered itself and crawled past Standard of California to become No. 4. Similarly, Atlantic Richfield leapfrogged over both Shell and Gulf to lay claim to being the sixth largest oil company in the land.

The service station population dwindled anew in 1982, dropping from 151,250 at the end of 1981 to 144,690 at the end of 1982. The outlook is that the total will decline further in 1983, hitting a new low of 139,250 by next Dec. 31.

	Total Assets		Net Income		Net Sales Ranking Among 500 U.S. Corporations (a)	
	1982	1981	1982	1981	1982	1981
Exxon Corp.	1	1	1	1	1	1
Mobil Oil Corp.	2	2	6	2	3	2
Texaco Inc.	3	3	8	4	4	4
Standard Oil (Indiana)	4	5	3	6	10	7
Standard of California	5	4	7	3	7	5
Atlantic Richfield Co.	6	8	4	8	12	10
Shell Oil Co.	7	7	5	7	13	13
Gulf Oil Corp.	8	6	9	9	9	9
Tenneco Oil Co. (b)	9	17	10	20	19	16
Standard Oil (Ohio)	10	9	2	5	21	21
Phillips Petroleum	11	11	13	11	17	15
Sun Co.	12	10	14	10	18	17
Getty Corp.	13	12	12	12	24	23
Union Oil Co. of California	14	13	11	13	28	27
Amerada-Hess Corp.	15	14	18	16	40	33
Ashland Oil Inc. (c)	16	18	17	19	36	35
Kerr-McGee Corp.	17	19	15	17	99	101
Diamond Shamrock	18	20	16	15	121	112
Murphy Oil Corp.	19	21	19	18	151	167
American Petrofina Co.	20	22	20	21	171	164
Crown Central Petroleum Corp.	21	—	21	—	197	—

Note: Cities Service and Marathon have been dropped from this report due to mergers with Occidental Petroleum and U.S. Steel, respectively. Neither issued separate reports in 1982. Conoco was dropped in 1982 after it was merged into DuPont.

(a) As ranked by Fortune's 500 leading companies, May 2, 1983; (b) Corporate but includes Tenneco Oil as a division; (c) Fiscal year ends Sept. 30.

Source: Fortune Magazine, May 2, 1983.

1982-1981 Changes in Profits

Industry Medians	% Change
Petroleum refining	−14.9%
Mining, crude oil production	−47.5
Metal manufacturing	−100.0
Aerospace	−30.9
Paper, fiber & wood products	−39.1
Office equipment (incl. computers)	8.9

(Petroleum refining ranked second in 1980 with a 25.4% increase; in 1981 it dropped to −7.6%.)

Return on Sales

Industry Medians	% Growth 1982	1981
Pharmaceuticals	9.9%	9.1%
Publishing, printing	6.5	7.1
Measuring, scientific, photographic equipment	5.9	6.9
Office equipment (incl. computers)	5.9	6.1
Petroleum refining	4.0	4.4
Mining, crude oil production	3.0	11.7
Tobacco	NA	7.9
All industries	**3.6**	**4.6**

(Petroleum refining ranked ninth with 5.5% in 1980; 14th with 4.4% in 1981.)

Return on Stockholders' Equity

Industry medians	% Growth 1982	1981
Pharmaceuticals	16.9%	18.0%
Publishing, printing	15.5	16.4
Measuring, scientific, photographic equipment	12.8	15.6
Petroleum refining	12.5	16.4
Office equipment (incl. computers)	12.4	13.3
Mining, crude oil production	9.0	17.6
All industries	**10.9**	**13.8**

(Petroleum refining ranked 3rd in 1980 with 19.4%; 6th in 1981 with 16.4%.)

Source: Fortune 500 largest corporations, May, 1983.

Oil Company Annual

Company	Gross Sales-Operating Revenues (a) (Add 000) 1982	Gross Sales-Operating Revenues (a) (Add 000) 1981	% Change 1982 vs. 1981	% Change 1982 vs. 1977	Net Income (Add 000) 1982	Net Income (Add 000) 1981
Amerada Hess Corp.	$ 8,394,085	$ 9,443,630	−11.1%	81.6%	$ 168,662	$ 212,591
American Petrofina	2,242,445	2,504,038	−10.5	108.4	54,401	74,140
Ashland, Inc. (b)	9,109,879	9,506,564	−4.2	80.3	180,864	90,032
Atlantic Richfield Co.	26,990,557	28,208,255	−4.3	136.7	1,676,078	1,671,290
Cities Service Co. (c)	—	8,564,000	—	—	—	(49,200)
Diamond Shamrock Corp. (d)	1,791,398	1,867,692	−4.1	183.8	249,785	308,362
Exxon Corp.	103,558,545	114,922,561	−9.9	93.3	4,185,932	4,826,215
Getty Oil Corp.	11,970,730	12,887,360	−7.1	237.8	691,590	856,865
Gulf Oil Corp.	30,630,000	30,461,000	0.6	71.7	900,000	1,231,000
Kerr-McGee Corp.	3,777,000	3,826,000	−1.2	74.5	209,764	211,117
Marathon Oil Co. (e)	9,098,431	9,219,991	−1.3	96.3	N.A.	343,059
Mobil Oil Corp.	60,969,000	65,458,000	−6.9	132.8	1,380,000	2,433,000
Murphy Oil Corp.	2,602,455	2,446,223	6.4	131.3	157,759	163,006
Phillips Petroleum Corp.	15,698,000	15,966,000	−1.2	149.7	646,000	879,000
Shell Oil Co.	20,214,000	21,739,000	−7.0	98.3	1,605,000	1,701,000
Standard Oil Co. of California	35,218,000	45,229,000	−22.1	61.9	1,377,000	2,380,000
Standard Oil Co. (Indiana)	28,073,000	29,947,000	−6.3	115.6	1,826,000	1,922,000
Standard Oil Co. of Ohio	13,529,000	14,140,000	−4.3	284.0	1,879,000	1,947,000
Sun Co.	16,258,000	16,430,000	−1.0	153.3	537,000	1,076,000
Tenneco (f)	14,979,000	15,066,000	−0.6	779.0	819,000	813,000
Texaco Inc.	48,019,000	59,297,000	−19.0	72.0	1,281.000	2,310,00
Union Oil Co. of California	10,390,400	10,745,900	−3.3	83.3	804,000	791,400

Company	Product Imports b/d 1982	Product Imports b/d 1981	Crude Imports b/d 1982	Crude Imports b/d 1981	Net Crude Production b/d Domestic (g) 1982	Net Crude Production b/d Domestic (g) 1981	Net Crude Production b/d Foreign 1982	Net Crude Production b/d Foreign 1981
Amerada Hess Corp.	—	—	—	—	76,519	82,357	76,311	73,745
American Petrofina	—	—	—	4,000	17,696	18,279	—	—
Ashland, Inc.	—	—	—	166,000	2,725	2,815	13,840	9,432
Atlantic Richfield Co.	—	—	—	—	607,400	539,900	35,300	32,800
Cities Service Co.	—	—	—	—	—	149,100	—	30,100
Diamond Shamrock Corp.	—	—	—	—	29,236	30,287	31	33
Exxon Corp.	—	—	—	—	740,000	752,000	2,359,000	3,044,000
Getty Oil Co.	—	—	—	—	279,900	277,700	142,700	145,900
Gulf Oil Co.	21,000	21,600	238,800	245,700	328,700	345,400	715,700	742,900
Kerr-McGee Corp.	—	—	—	—	20,400	20,100	15,100	8,700
Marathon Oil Co.	—	—	172,000	167,000	160,100	165,874	74,800	64,912
Mobil Oil Corp.	11,000	10,000	161,000	136,000	309,000	316,000	268,000	274,000
Murphy Oil Corp.	—	—	8,032	26,671	14,722	13,992	49,926	47,577
Phillips Petroleum Corp.	—	—	39,900	8,600	260,000	268,000	125,300	141,000
Shell Oil Co.	—	—	238,000	256,000	519,000	514,000	27,000	23,000
Standard Oil Co. of California	31,700	51,700	149,800	136,300	332,100	341,600	149,800	136,300
Standard Oil Co. (Indiana)	17,000	14,000	278,000	292,000	409,000	437,000	357,000	357,000
Standard Oil Co. of Ohio	—	—	—	—	694,869	717,291	—	—
Sun Co.	—	—	—	—	212,093	217,321	29,559	27,433
Tenneco	—	—	—	—	82,010	83,101	38,039	26,349
Texaco Inc.	—	—	—	—	352,000	381,000	1,543,000	2,672,000
Union Oil Co. of California	—	—	41,000	67,000	168,800	165,800	71,300	70,300

(a) Excluding taxes.
(b) Fiscal year ends 9/30.
(c) Citgo was merged with Occidental Petroleum in late 1982 and its data for the year were not disclosed in Occidental's annual report.
(d) Earnings are "operating profits," not net income; also data are for Shamrock's oil and gas unit.

Reports for 1982

Net Income		Net Income as % of Gross Sales		Total Assets				Net Income as % of average stockholder equity	
% Change				(Add 000)		% Change			
1982 vs. 1981	1982 vs. 1977	1982	1981	1982	1981	1982 vs. 1981	1982 vs. 1977	1982	1981
−20.7%	−5.7%	2.0%	2.3%	6,145,303	6,321,581	−3.0%	105.0%	6.6%	8.5%
−26.6	39.6	2.4	3.0	1,166,022	1,146,081	1.7	36.5	9.7	13.7
101.0	10.1	2.0	1.0	4,210,481	4,121,813	2.1	61.3	17.3	9.3
0.3	138.7	6.2	5.9	21,632,775	19,732,539	9.6	94.6	18.1	20.8
—	—	—	—	—	6,048,500	—	—	—	—
−19.0	90.2	13.9	16.5	3,194,013	3,016,385	5.9	N.A.	N.A.	22.8
−13.3	72.7	4.0	4.2	62,288,550	61,547,957	1.2	62.0	14.6	17.4
−19.3	123.7	5.8	6.7	9,924,490	9,536,356	4.1	137.8	14.0	19.2
−26.9	19.7	2.9	4.0	20,436,000	20,429,000	—	43.7	9.1	12.3
−0.6	76.0	5.6	5.6	3,763,000	3,415,000	10.2	105.3	12.5	14.1
—	—	N.A.	3.5	9,623,771	5,993,623	60.1	178.5	N.A.	17.2
−43.3	36.9	2.3	3.7	36,439,000	34,776,000	4.8	110.4	9.4	17.6
−3.2	234.7	6.1	6.7	2,989,523	2,776,881	7.7	119.7	18.8	22.1
−26.5	25.0	4.1	5.5	12,097,000	11,264,000	7.4	107.2	11.5	16.9
−5.6	118.4	7.9	7.8	21,376,000	20,118,000	6.3	140.8	17.4	21.0
42.1	35.5	3.9	5.3	23,490,000	23,680,000	−0.8	58.5	10.6	20.0
−5.0	80.6	6.5	6.4	24,289,000	22,964,000	4.6	88.5	16.5	19.2
−3.5	938.0	13.5	13.8	16,016,000	15,743,000	1.7	54.5	10.6	11.1
−50.1	48.3	3.3	6.5	12,019,000	11,822,000	1.7	132.0	10.5	23.1
0.7	91.8	5.5	5.4	17,378,000	16,808,000	3.4	721.3	11.9	12.5
−44.5	37.8	2.7	3.9	27,114,000	27,489,000	−1.4	43.3	9.2	19.6
1.6	140.5	7.7	7.4	8,511,300	7,592,800	12.1	80.1	18.2	20.8

Refinery Crude Runs b/d				Total domestic production as % of total domestic runs		Domestic refined petroleum product sales b/d	
Domestic		Foreign					
1982	1981	1982	1981	1982	1981	1982	1981
416,000	414,000	—	—	18.5%	19.8%	463,000	515,000
114,630	97,663	—	—	15.4	18.7	140,200	121,479
312,200	321,499	—	—	0.9	0.9	394,575	416,672
670,200	662,700	—	—	90.6	81.5	673,800	647,400
—	208,800	—	—	—	71.6	—	249,100
65,973	59,475	—	—	44.3	50.9	90,323	83,595
989,000	1,111,000	2,493,000	2,767,000	74.8	67.7	1,174,000	1,295,000
237,100	249,200	37,300	16,700	118.1	111.4	281,800	285,800
649,100	649,300	387,600	483,300	50.6	53.2	716,200	691,100
118,353	113,659	—	—	17.2	17.7	157,441	149,984
392,800	382,372	40,600	40,261	40.8	43.4	441,000	457,690
644,000	639,000	1,067,000	1,134,000	47.9	49.5	699,000	696,000
91,484	82,790	27,742	24,393	16.1	16.9	96,063	91,215
456,000	452,000	—	—	57.0	59.3	461,000	446,000
845,000	867,000	—	—	61.4	59.3	811,000	826,000
866,600	1,079,300	678,600	908,200	38.3	31.7	950,000	1,141,000
796,000	818,000	129,000	133,000	51.4	53.4	852,000	831,000
360,000	362,012	—	—	193.0	198.1	370,900	378,430
366,393	382,709	70,650	76,678	57.9	56.8	512,048	477,388
92,921	98,836	N.A.	142,034	88.2	84.1	132,486	142,034
694,000	836,000	1,101,000	1,375,000	50.7	45.6	805,000	901,000
363,900	372,400	—	—	46.4	44.5	364,200	365,300

(e) Income data were not disclosed by Marathon, now a division of Du Pont; also "crude imports" are tanker liftings of equity crude oil.

(f) Corporate return but includes Tenneco Coil Co.

(g) Includes natural gas liquids and liquid condensate.

Source: NPN questionnaires and annual reports.

Quarterly and Full Year Earnings—1982 vs. 1981

(Add 000,000)

	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	Full year 1982	Full year 1981	% Change
Exxon Corp.	$1,240.0	$885.0	$1,070.0	$1,482.0	$4,185.0	$4,826.0	(13.3%)
Mobil Oil Corp.	326.0	310.0	323.0	282.0	1,380.0	2,433.0	(43.3)
Texaco Inc.	143.0	305.0	303.0	306.0	1,281.0	2,310.0	(44.5)
Standard Oil Co. of California	230.0	263.0	459.0	425.0	1,380.0	2,380.0	(42.0)
Standard Oil Co. (Indiana)	470.0	382.0	559.0	415.0	1,826.0	1,922.0	(5.0)
Gulf Oil Corp.	267.0	210.0	146.0	226.0	900.0	1,230.0	(26.8)
Shell Oil Co.	345.0	380.0	442.0	438.0	1,610.0	1,700.0	(5.3)
Atlantic Richfield Co.	385.4	409.8	446.9	434.0	1,676.1	1,671.3	0.3
Standard Oil Co. (Ohio)	454.7	473.2	487.3	463.9	1,879.1	1,946.9	(3.5)
Sun Co.	124.0	110.0	152.0	151.0	537.0	1,080.0	(50.3)
Phillips Petroleum Co.	189.0	139.0	131.6	154.6	645.9	879.4	(26.6)
Getty Oil Co.	164.0	151.5	178.0	172.7	691.6	856.9	(19.3)
Union Oil Co. of California	168.5	197.6	212.8	225.0	804.0	791.0	1.6
Amerada Hess Corp.	(16.2)	61.1	80.1	43.6	168.7	212.6	(20.6)
Cities Service Co.	53.0	74.4	25.0	(a)	(a)	(a)	—
Marathon Oil Co.	(b)	(b)	(b)	(b)	(b)	(b)	—
Tenneco	129.0	204.0	198.0	288.0	819.0	813.0	0.7
Ashland, Inc. (c)	47.6	(11.6)	69.1	75.8	180.9	90.0	101.0
Kerr-McGee Corp.	29.2	50.2	56.8	73.5	209.8	211.1	(0.6)
Diamond Shamrock Corp.	64.7	31.9	42.3	46.2	185.1	121.3	52.6
Murphy Oil Corp.	33.4	41.7	43.9	40.1	159.1	163.0	(2.4)
American Petrofina	16.0	10.9	12.7	14.8	54.4	74.1	(26.6)

(a) Merged into Occidental Petroleum in December, 1982; (b) Merged into U.S. Steel Corp. in 1981; (c) Fiscal year ends Sept. 30.

The quarterly earnings reports in the 1982 and 1981 tables (above and below) can only be considered approximate at this time. This is because a number of companies restated their 1982—and in a few cases, their 1981—quarterly reports in their 1982 annual reports. The year-end earnings totals in the table above (for 1982 and 1981) reflect these restatements, however, and can be presumed accurate.

How They Fared in 1981 vs. 1980

(Add 000,000)

	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	Full Year 1981	Full Year 1980	% Change
Exxon Corp.	$1,600.0	$1,825.0	$1,075.0	$1,065.0	$5,565.0	$5,650.0	(1.5%)
Mobil Oil Corp.	640.0	700.0	506.0	588.0	2,434.0	2,813.0	(13.5)
Texaco Inc.	658.0	555.7	589.7	507.0	2,310.4	2,240.0	3.0
Standard Oil Co. of California	666.0	616.0	527.0	571.0	2,380.0	2,400.0	(1.0)
Standard Oil (Indiana)	376.7	552.8	608.3	384.0	1,921.8	1,915.3	—
Gulf Oil Corp.	303.0	311.0	316.0	301.0	1,231.0	1,140.0	7.9
Shell Oil Corp.	361.0	410.0	471.0	458.0	1,700.0	1,500.0	13.3
Atlantic Richfield Co.	346.4	380.1	433.5	469.8	1,671.3	1,651.4	1.2
Standard Oil Co. (Ohio)	520.4	478.7	470.0	477.8	1,946.9	1,811.0	7.4
Sun Co.	120.0	298.0	210.0	488.0	1,076.0	723.0	48.8
Phillips Petroleum Co.	270.8	229.8	192.3	186.5	897.4	1,069.6	(17.9)
Getty Corp.	230.2	205.0	205.2	216.5	856.9	871.7	(1.7)
Union Oil Co. of California	154.4	207.9	193.0	236.0	791.4	647.0	22.3
Amerada Hess Corp.	174.5	(53.7)	43.6	48.2	212.6	540.2	(60.6)
Cities Service Co.	57.7	90.5	77.6	(275.0)	(49.2)	477.5	—
Marathon Oil Co.	69.8	86.6	146.6	40.1	341.3	379.0	(9.5)
Ashland, Inc.*	20.2	7.2	13.3	49.3	90.0	205.1	(56.1)
Kerr-McGee Corp.	43.4	51.4	50.3	66.0	211.1	182.2	15.9
Diamond-Shamrock	51.1	(43.9)	54.4	59.7	121.3	201.2	(39.7)
Murphy Oil Corp.	38.4	45.0	41.1	41.4	165.9	150.5	10.2
American Petrofina	20.0	15.3	21.7	17.0	74.1	104.3	(29.0)

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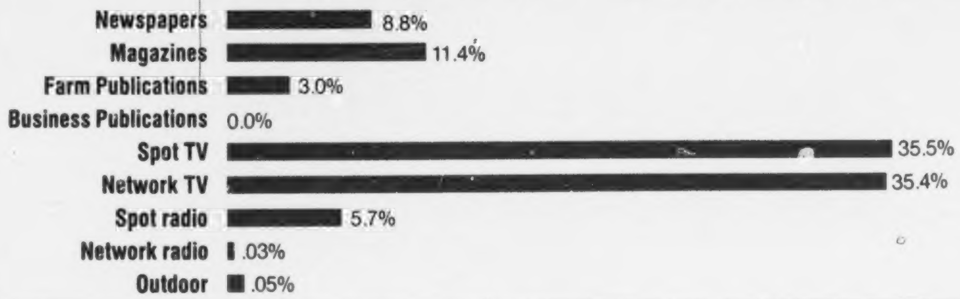
*Fiscal year ends 9/30

How Oil Spends Its Ad Money

How Three Companies Divide Their Media Expenditures



Source: Advertising Age and NPN estimates. Note table below for further detail and footnotes for special caveats.

How Oil Companies Split Their Budgets (a)

(Add 000)

	Mobil (b)		Exxon		Shell	
	1981	1980	1981	1978	1978	1977
Newspapers	$ 8,516	$ 5,923	$1,529	$1,958	$ 751	$ 644
Gen. Magazines	2,416	2,747	6,755	5,179	4,706	4,772
Farm Publications	1,449	1,915	255	188	2,006	2,225
Business Publications	—	—	—	—	(c)	(c)
Spot TV	33,640	33,118	6,245	6,804	3,491	2,657
Network TV	11,354	8,666	24,215	12,668	7,659	10,906
Spot Radio	2,537	2,873	2,931	4,022	947	338
Network Radio	—	—	298	—	36	635
Outdoor	121	135	255	442	2	44
Total	**$60,395(c)**	**$55,377**	**$42,483**	**$31,261**	**$19,592**	**$22,224**

(a) Shell did not make the list of the nation's top 100 advertisers in 1979, 1980 or 1981; Exxon did not make it in 1979 or 1980. Hence, the only comparable data available are the 1977-1978 figures for Shell and the 1978 and 1981 figures for Exxon versus Mobil's 1980-1981 data; (b) Mobil data includes Montgomery Ward and Container Corp. of America, which accounted for about 82% of the total advertising budget in 1980; (c) Column total is more than individual expenditures due to 0.6% unmeasured expenditures.

Source: Advertising Age, top 100 advertisers in 1981; Shell's budget for 1978 was estimated on an Ad Age basis; no recent data available.

Network TV Spending

Company	1981 Spending (Add 000)	1982 Spending (Add 000)	% Change
Phillips	$8,780	$9,731	+11%
Shell	6,145	9,511	+55
Texaco	12,016	7,558	−37
Sun	5,367	6,461	+20
Quaker State	3,068	5,056	+65
Pennzoil	5,833	4,860	−17
Exxon	20,577	4,213	−80

Source: Television Bureau of Advertising from BAR, April 1983.

Company	1982 Spending (Add 000)	1981 Spending (Add 000)	% Change
Conoco	7,075	3,404	−52
Ashland	3,190	1,700	−47
Ford (motorcraft)	1,305	720	−45
Witco (Kendall)	820	609	−26
Gulf	205	414	+102
Getty	—	320	Inf.

Spot TV Spending

Company	1981 Spending (Add 000)	1982 Spending (Add 000)	% Change
Standard Oil (Ind.)	$11,631	$12,562	+8%
Exxon	6,223	10,804	74
Standard Oil (Calif.)	8,518	7,756	−9
Union Oil of Calif.	4,291	6,816	+59
Gulf	9,624	6,756	−30
Shell	7,416	6,243	−16
Mobil	8,993	6,006	−33
Getty	3,202	4,621	+44
Atlantic Richfield	746	4,414	+492
Sun	1,799	3,500	+95

Source: Television Bureau of Advertising from BAR, April 1983.

Company	1982 Spending (Add 000)	1981 Spending (Add 000)	% Change
Texaco	3,243	3,746	−13
Burmah Oil	3,048	2,856	+7
Ashland	2,796	2,069	+35
Pennzoil	2,623	2,522	+4
Quaker State	2,466	2,054	+20
Standard Oil (Ohio)	2,092	2,621	−20
Phillips	986	2,092	−53
Witco (Kendall)	697	681	+2
Amerada Hess	613	—	Inf.

Current Automotive Registrations (a)

	Automobiles			Trucks and Buses		All Motor Vehicles			Motorcycles
State	Registered 1981	Estimated 1982	% Chng.	Estimated 1982	% Chng.	Registered 1981	Estimated 1982	% Chng.	Estimated 1982
Alabama	2,149,718	2,248,000	4.6%	886,000	2.8%	3,011,290	3,134,000	4.1%	80,000
Alaska	178,887	188,000	5.1	116,000	6.7	287,595	304,000	5.7	10,000
Arizona	1,507,320	1,603,000	6.3	635,000	6.8	2,101,823	2,238,000	6.5	106,000
Arkansas	1,092,943	1,122,000	2.7	591,000	4.1	1,660,794	1,713,000	3.1	31,000
California	13,208,593	13,362,000	1.2	3,481,000	−2.8	16,790,562	16,843,000	0.3	750,000
Colorado	1,836,984	1,863,000	1.4	668,000	4.0	2,479,317	2,531,000	2.1	127,000
Connecticut	1,952,134	1,945,000	−0.4	153,000	−0.9	2,106,516	2,098,000	−0.4	74,000
Delaware	327,035	330,000	0.9	80,000	2.9	404,756	410,000	1.3	12,000
Dist. of Col.	253,403	264,000	4.2	20,000	4.9	272,465	284,000	4.2	7,000
Florida	6,484,571	6,586,000	1.6	1,533,000	2.9	7,974,098	8,119,000	1.8	221,000
Georgia	2,951,022	2,968,000	0.6	914,000	1.4	3,852,467	3,882,000	0.8	117,000
Hawaii	524,035	534,000	1.9	58,000	2.2	580,777	592,000	1.9	8,000
Idaho	526,199	533,000	1.3	336,000	1.7	856,663	869,000	1.4	62,000
Illinois	6,334,050	6,424,000	1.4	1,278,000	1.2	7,597,068	7,702,000	1.4	310,000
Indiana	2,880,098	2,885,000	0.2	1,094,000	8.2	3,891,297	3,979,000	2.3	185,000
Iowa	1,702,819	1,713,000	0.6	655,000	0.2	2,356,783	2,368,000	0.5	247,000
Kansas	1,386,872	1,386,000	−0.1	650,000	2.1	2,023,408	2,036,000	0.6	126,000
Kentucky	1,800,574	1,805,000	0.2	795,000	0.3	2,593,447	2,600,000	0.3	66,000
Louisiana	1,979,204	1,991,000	0.6	868,000	3.0	2,822,176	2,859,000	1.3	82,000
Maine	530,864	522,000	−1.7	195,000	−1.7	729,251	717,000	−1.7	55,000
Maryland	2,387,198	2,413,000	1.1	483,000	4.0	2,851,581	2,896,000	1.6	83,000
Massachusetts	3,293,324	3,298,000	0.1	470,000	1.1	3,758,139	3,768,000	0.3	126,000
Michigan	5,004,645	4,945,000	−1.2	1,143,000	−1.5	6,165,600	6,088,000	−1.3	245,000
Minnesota	2,327,769	2,338,000	0.4	847,000	2.8	3,151,936	3,185,000	1.0	193,000
Mississippi	1,198,295	1,200,000	0.1	384,000	1.7	1,576,004	1,584,000	0.5	30,000
Missouri	2,466,032	2,488,000	0.9	888,000	2.4	3,333,560	3,376,000	1.3	107,000
Montana	425,767	431,000	1.2	326,000	5.0	736,152	757,000	2.8	40,000
Nebraska	803,579	789,000	−1.8	405,000	−0.6	1,210,957	1,194,000	−1.4	51,000
Nevada	505,804	528,000	4.4	200,000	4.5	697,178	728,000	4.4	22,000
New Hampshire	651,077	661,000	1.5	112,000	1.8	761,088	773,000	1.6	60,000
New Jersey	4,176,738	4,176,000	−0.1	543,000	5.1	4,696,536	4,719,000	0.5	113,000
New Mexico	684,067	687,000	0.3	361,000	−0.6	1,047,936	1,048,000	0.0	53,000
New York	7,097,565	7,153,000	0.8	1,034,000	1.2	8,119,763	8,187,000	0.8	194,000
North Carolina	3,420,297	3,447,000	0.8	1,132,000	0.6	4,545,624	4,579,000	0.7	116,000
North Dakota	374,994	381,000	1.6	271,000	1.7	641,370	652,000	1.7	32,000
Ohio	6,393,685	6,389,000	−0.1	1,332,000	−0.9	7,737,264	7,721,000	−0.2	274,000
Oklahoma	1,684,399	1,790,000	6.3	1,017,000	9.4	2,614,381	2,807,000	7.4	140,000
Oregon	1,542,792	1,551,000	0.5	541,000	−0.1	2,084,546	2,092,000	0.4	88,000
Pennsylvania	5,920,737	6,017,000	1.6	1,100,000	1.0	7,009,902	7,117,000	1.5	235,000
Rhode Island	519,002	527,000	1.5	77,000	0.0	596,026	604,000	1.3	25,000
South Carolina	1,499,066	1,504,000	0.3	479,000	1.6	1,970,351	1,983,000	0.6	44,000
South Dakota	379,662	379,000	−0.2	235,000	1.0	612,406	614,000	0.3	39,000
Tennessee	2,870,407	2,911,000	1.4	659,000	−0.6	3,533,299	3,570,000	1.0	84,000
Texas	7,860,366	8,002,000	1.8	3,431,000	5.2	11,123,150	11,433,000	2.8	353,000
Utah	698,796	714,000	2.2	333,000	−0.2	1,032,500	1,047,000	1.4	70,000
Vermont	266,789	275,000	3.1	81,000	3.3	345,214	356,000	3.1	22,000
Virginia	3,231,904	3,297,000	2.0	627,000	2.4	3,844,334	3,924,000	2.1	86,000
Washington	2,374,996	2,405,000	1.3	937,000	−1.9	3,330,285	3,342,000	0.4	147,000
West Virginia	955,457	985,000	3.1	405,000	2.2	1,351,913	1,390,000	2.8	39,000
Wisconsin	2,542,274	2,563,000	0.8	564,000	1.6	3,097,621	3,127,000	0.9	211,000
Wyoming	293,099	305,000	4.1	199,000	2.4	487,342	504,000	3.4	23,000
Total	**123,461,507**	**124,821,000**	**1.1%**	**35,622,000**	**1.8%**	**158,456,511**	**160,443,000**	**1.3%**	**6,021,000**

(a) These estimates were made by the Federal Highway Administration on the basis of state reports of vehicle registrations in the early months of 1982 and information available on current trends, vehicle production, and other factors. They include both privately owned and publicly owned vehicles except those owned by the military services. Registrations shown for 1981 are from table MV-1, 1981.

Estimated Licensed Drivers, By Sex and States—1981 and 1982

Women drivers outnumber male drivers in two states and are close to topping them in five others, according to the Federal Highway Administration's annual statistical book.

Women hold more licenses than men in Indiana and Utah, and preliminary estimates for 1982 indicate they are very close to the 50-50 level with males in Connecticut, Kansas, Massachusetts, Oklahoma and Virginia. Women drivers are a majority on a national basis. In 1980, they held 53.13% of licenses; in 1981, 52.96%; and in 1982, it is estimated they held 52.79%.

	1981 (Actual)				1982 (Estimated—Add 000)			
State	**Male Drivers**	**Female Drivers**	**Total Drivers**	**% Male Drivers**	**Male Drivers**	**Female Drivers**	**Total Drivers**	**% Male Drivers**
Alabama	1,203,735	1,112,064	2,315,799	51.98%	1,213	1,147	2,360	51.40%
Alaska	129,903	98,574	288,477	56.86	133	102	235	56.60
Arizona	1,093,190	926,952	2,020,142	54.11	1,229	962	2,091	58.78
Arkansas	793,301	739,015	1,532,316	51.77	816	765	1,581	51.61
California	8,517,899	7,528,353	16,046,252	53.08	8,675	7,692	16,367	53.00
Colorado	1,086,992	1,017,363	2,104,355	51.65	1,105	1,044	2,149	51.42
Connecticut	1,138,581	1,058,924	2,197,505	51.81	1,134	1,090	2,224	50.99
Delaware	221,596	207,440	429,036	51.65	226	212	438	51.60
Dist. of Col.	187,000	156,000	343,000	54.52	186	156	342	54.39
Florida	3,978,809	3,662,226	7,641,035	52.07	4,104	3,804	7,908	51.90
Georgia	1,825,622	1,692,115	3,517,737	51.90	1,862	1,733	3,595	51.79
Hawaii	294,919	239,932	534,851	55.14	297	243	540	55.00
Idaho	337,650	305,052	647,702	52.54	341	310	651	52.38
Illinois	3,646,620	3,216,389	6,863,009	53.13	3,667	3,251	6,918	53.00
Indiana	1,742,650	1,752,656	3,495,306	49.86	1,758	1,779	3,537	49.70
Iowa	1,116,000	1,006,000	2,122,000	52.59	1,125	1,014	2,139	52.59
Kansas	858,200	829,999	1,680,099	51.08	861	827	1,698	50.71
Kentucky	1,147,040	1,000,215	2,147,255	53.42	1,163	1,027	2,190	53.11
Louisiana	1,285,613	1,120,085	2,405,698	53.44	1,287	1,164	2,451	52.51
Maine	388,735	363,818	752,553	51.66	398	377	775	51.35
Maryland	1,419,546	1,303,870	2,723,416	52.12	1,431	1,320	2,751	52.02
Massachusetts	1,862,159	1,731,180	3,593,339	51.82	1,786	1,771	3,557	50.21
Michigan	3,367,092	3,082,908	6,450,000	52.80	3,384	3,111	6,495	52.10
Minnesota	1,233,596	1,149,301	2,382,897	51.77	1,250	1,173	2,423	51.59
Mississippi	889,164	810,033	1,699,197	52.33	894	822	1,716	52.10
Missouri	1,699,659	1,581,020	3,280,679	51.81	1,710	1,603	3,313	51.61
Montana	271,393	212,743	483,866	56.09	272	214	486	55.97
Nebraska	565,072	522,925	1,087,997	51.94	568	528	1,096	51.82
Nevada	347,008	295,147	642,155	54.04	356	304	660	53.94
New Hampshire	347,124	317,961	665,085	52.19	351	324	675	52.00
New Jersey	2,722,760	2,432,161	5,154,921	52.82	2,809	2,501	5,310	52.90
New Mexico	475,450	438,880	914,330	52.00	482	446	928	51.94
New York	5,077,131	4,171,537	9,248,668	54.90	5,145	4,124	9,287	55.40
North Carolina	1,985,339	1,845,345	3,830,684	51.83	2,010	1,878	3,888	51.70
North Dakota	223,498	201,454	424,952	52.59	225	205	430	52.33
Ohio	3,892,172	2,507,440	6,336,612	60.43	3,559	2,334	5,893	60.39
Oklahoma	987,563	965,412	1,952,975	50.57	998	978	1,976	50.51
Oregon	1,052,388	931,209	1,983,597	53.05	1,063	946	2,009	52.91
Pennsylvania	3,897,417	3,354,112	7,251,529	53.75	3,952	3,408	7,360	53.70
Rhode Island	307,140	286,001	593,141	51.78	309	290	599	51.59
South Carolina	1,014,327	934,193	1,948,520	52.06	1,023	949	1,972	51.88
South Dakota	248,275	227,997	476,272	52.13	250	231	481	51.98
Tennessee	1,474,996	1,363,018	2,838,014	51.97	1,485	1,381	2,866	51.81
Texas	5,097,941	4,575,944	593,141	52.70	5,292	4,769	10,061	52.60
Utah	442,327	446,657	888,984	49.76	459	466	925	49.62
Vermont	180,834	167,931	348,765	51.85	182	170	352	51.70
Virginia	1,474,996	1,753,855	3,570,363	50.88	1,848	1,797	3,645	50.70
Washington	5,097,941	1,291,828	2,732,785	52.73	1,468	1,322	2,790	52.62
West Virginia	841,255	647,045	1,488,300	56.52	846	654	1,500	56.40
Wisconsin	1,577,732	1,449,615	3,027,347	52.12	1,590	1,468	3,058	51.99
Wyoming	198,304	164,463	362,767	54.66	206	172	378	54.50
Total U.S.	**77,888,182**	**69,187,987**	**147,075,169**	**52.96%**	**78,683**	**70,376**	**149,059**	**52.79%**

Source: Federal Highway Administration, Table DL-IA, Highway Statistics, 1981, for 1981 data; Table SS81-5, Selected Highway Statistics and Charts, 1981, for 1982 estimates.

Passenger Cars: Oil, Automotive Trends

Fuel and Oil Consumption

Year	Avg. annual miles per car (a)	Avg. gal. gasoline (a)	Avg. miles per gal. (a)	M/O ratio (b)	Avg. qts. motor oil
1982	**8,950**	**580**	**15.4**	—	—
1981	9,026	581	15.5	.28	6.8
1980	9,135	603	15.2	.25	6.5
1979	9,245	664	14.3	.25	7.3
1978	10,046	715	14.1	.28	7.6
1977	9,839	706	13.9	.28	7.9
1976	9,763	711	13.7	.28	8.0
1975	9,364	712	13.5	.31	9.5
1974	9,448	704	13.4	.31	9.5
1973	9,992	763	13.1	.31	9.5
1972	10,184	755	13.5	.33	10.0
1971	10,121	746	13.6	.36	10.7
1970	9,978	735	13.6	.41	12.0
1969	9,782	718	13.6	.42	12.1
1965	9,387	667	14.1	.63	16.8

(a) 1965-1980 U.S. Department of Transportation; 1982 NPN estimate.
(b) Motor-oil ratio; the number of gal. of oil sold per 100 gal. of gasoline.

U.S. Passenger-Car Compression Ratios

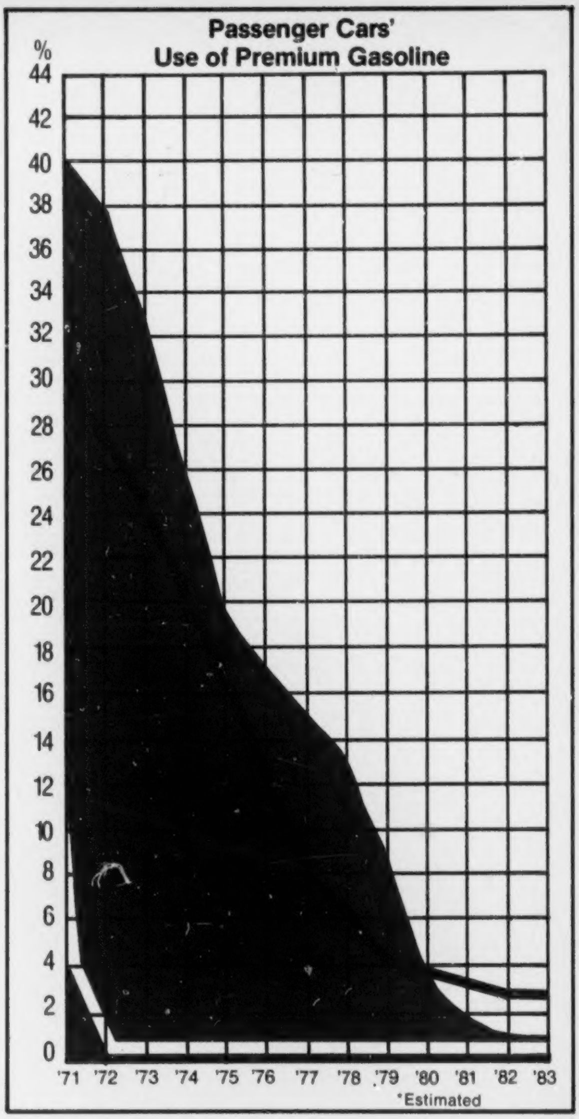
Year	Weighted average (a)	Highest (b)	Lowest (b)
1983	**8.5**	**9.5**	**7.5**
1982	8.5	9.5	7.5
1981	8.3	9.0	7.5
1980	8.3	9.0	7.5
1979	8.3	9.0	7.5
1978	8.2	9.0	7.5
1977	8.2	9.0	7.5
1976	8.2	9.0	7.6
1975	8.2	9.0	7.6
1974	8.2	9.0	7.6
1973	8.3	9.0	7.6
1972	8.4	9.0	8.0
1971	8.7	10.7	8.0
1970	9.4	11.0	8.3
1969	9.5	11.0	8.3
1965	9.4	10.8	8.0

(a) Weighted average is based on production of automobiles of that model year. Production statistics have been used for all years except 1983 which are estimated.
(b) Highest and lowest compression ratios of standard (not optional) engines; excludes diesels.
Source: 1965-1974, Automotive-industry sources. 1975-83 NPN estimates.

Vehicle Ownership by Households And Licensed Drivers

Licensed Drivers	Motor Vehicle Ownership One	Two	Three	Four+	Sub-Total	None	Distribution by Households (a)
One	65.6%	16.7%	12.4%	10.3%	35.8%	21.1%	33.6%
Two	29.8	73.1	47.5	36.1	50.0	3.1	42.6
Three	1.8	8.5	31.0	28.2	9.7	0.2	8.2
Four+	0.2	1.1	7.9	19.4	2.7	0.1	2.3
Five+	—	0.1	1.0	5.9	0.5	—	0.5
All Drivers	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Distribution (a) by Households	34.7%	34.3%	10.6%	5.0%	84.6%	15.4%	100.0%

(a) Based on 75.4-million households. Data compiled by Federal Highway Administration in the National Personal Transportation Study.
Source: FHA Highway Statistics 1979, Table NPTS-8, September, 1980.



■ Premium Recommended for cars on Road.
■ Premium Gasoline Sales, U.S.
□ Premium Recommended for Model Year.

Passenger-Car Use of Premium

Year	Premium Recommended Model Year	Cars on Road (a)	Premium Sales
1983	**0**	**3.0%**	**0.7%**
1982	0	3.0	0.9
1981	0	3.0	1.4
1980	0	3.7	4.7
1979	0	4.5	8.3
1978	0	6.5	12.6
1977	0	8.9	14.8
1976	0	11.9	17.1
1975	0	15.9	19.0
1974	0	19.7	24.5
1972	0	27.1	38.1
1970	32	32.3	42.6

(a) Weighted average based on all car registrations.
Source: Premium sales 1964-1975, Ethyl Corp.; 1976-1983 NPN estimates.

1981 Relationships by Population and Drivers

State	Resident Population (Add 000)	Licensed Drivers per 1,000 Resident Population	Registered Motor Vehicles per 1,000 Resident Population	Gal. of Fuel per Vehicle	Miles per Gal.	Annual Miles per Vehicle	Vehicle Miles per Licensed Driver
Alabama	3,917	591	769	695	13.31	9,249	12,027
Alaska	412	555	698	650	15.57	10,122	12,741
Arizona	2,794	723	752	720	12.28	8,835	9,192
Arkansas	2,296	667	723	809	12.48	10,098	10,944
California	24,195	663	694	703	13.55	9,523	9,965
Colorado	2,965	710	836	645	13.97	9,009	10,615
Connecticut	3,134	701	672	652	14.10	9,193	8,813
Delaware	598	717	677	804	13.70	11,014	10,391
Dist. of Col.	631	544	432	671	18.10	12,141	9,644
Florida	10,183	750	783	657	14.53	9,549	9,965
Georgia	5,574	631	691	851	13.68	11,640	12,748
Hawaii	981	545	592	542	18.60	10,081	10,947
Idaho	959	670	893	578	14.10	8,144	10,856
Illinois	11,462	599	663	657	13.19	8,666	9,593
Indiana	5,468	639	712	803	12.45	9,992	11,124
Iowa	2,899	732	813	683	11.88	8,110	9,007
Kansas	2,383	705	849	700	12.34	8,634	10,398
Kentucky	3,662	586	708	757	12.83	9,715	11,734
Louisiana	4,308	558	655	838	10.39	8,712	10,220
Maine	1,133	664	644	745	13.97	10,404	10,082
Maryland	4,263	639	669	727	13.81	10,035	10,508
Massachusetts	5,773	622	651	634	15.08	9,565	10,004
Michigan	9,204	701	670	681	14.78	10,070	9,626
Minnesota	4,094	582	770	664	13.70	9,099	12,035
Mississippi	2,531	671	623	885	12.15	10,756	9,976
Missouri	4,941	664	675	834	12.65	10,553	10,723
Montana	793	610	928	724	13.15	9,512	14,471
Nebraska	1,577	690	768	728	13.05	9,500	10,574
Nevada	845	760	825	798	11.71	9,345	10,146
New Hampshire	935	711	814	549	15.72	8,632	9,878
New Jersey	7,404	696	634	727	15.03	10,929	9,957
New Mexico	1,328	689	789	826	13.26	10,945	12,545
New York	17,602	525	461	692	14.09	9,745	8,556
North Carolina	5,953	643	764	696	13.29	9,253	10,980
North Dakota	658	646	975	683	12.21	8,345	12,594
Ohio	10,781	588	718	688	13.49	9,280	11,331
Oklahoma	3,100	630	843	796	13.83	11,008	14,736
Oregon	2,650	749	787	699	13.39	9,362	9,839
Pennsylvania	11,871	611	591	720	14.16	10,201	9,861
Rhode Island	953	622	625	638	14.67	9,354	9,399
South Carolina	3,167	615	622	878	13.33	11,700	11,832
South Dakota	686	694	893	674	14.61	9,845	12,659
Tennessee	4,612	615	766	764	12.86	9,829	12,237
Texas	14,766	655	753	827	13.06	10,796	12,413
Utah	1,518	586	680	742	14.01	10,394	12,072
Vermont	516	676	669	761	14.60	11,109	10,996
Virginia	5,430	658	708	743	13.45	9,997	10,764
Washington	4,217	648	790	607	14.98	9,089	11,076
West Virginia	1,952	762	693	673	11.77	7,927	7,200
Wisconsin	4,741	639	653	737	14.72	10,851	11,102
Wyoming	492	737	991	930	11.52	10,715	14,395
Total	**229,307**	**641**	**691**	**722**	**13.54**	**9,783**	**10,541**

Brand Names of Gasoline and Motor Oil

Gasoline	Motor Oil
Ada Resources	
Phillips 66 (r, xr)	M&M Phillips 66 Unique HDS HDS + 1 Super HDS II Trop Artic
Agway Petroleum Corp. (A)	
Agway (r, xr)	Agway
American Petrofina	
Fina Gasoline (r) Fina Unleaded (xr, xp)	Fina Shield Fina HD Premium Fina Ultra Supreme 10W-40 Fina 2001 (5W30)
Amos Post, Inc.	
Mobil (r) Chevron (r)	Mobil Chevron
Amoco Oil Co.	
Amoco Regular (r) Amoco Premium (p) Amoco (xr) Amoco Premium Lead Free (xp)	**Reseller** Amoco Amolube Amoco M.V. Amoco L.D.O. **Consumer/ Commercial** Amoco 100 Amoco 200 Amoco 300 Amoco M.V.
Apollo Oil Co. (A)	
Apollo (r, p, sp, diesel)	
Arkla Chemical Corp.	
Arkla Regular (r) Arkla No-Lead (r) Arkla Super No-Lead (xsp) (xr)	Arkla Blue Chip Arkla Royal Blue Arkla Multi-Range Super Express
Armour Oil Co.	
Asamera Oil (U.S.)	
Asamera (r) (x) (xp)	
Ashland Petroleum Co.	
Ashland (r, p, sp) (xr, xp, xsp)	
Atlantic Richfield Co.	
Arco (r) Arco Clear (xr) Arco Unleaded Supreme (xp)	Arco Arco Plus Arco Fleet HD Arco Fleet S3 Plus Arco XHD Arco Supreme Arco GT Arco Graphite
Atlas Oil Co. of Utica (A)	
Cities Service (r&xr) Ashland Oil (p&xp) Triangle (sp&xsp)	
Augsbury Corp.	
Chevron (r) Mobil (p) Getty (sp)	Augsbury Chevron Gulf
Automatic Comfort Corp.	
Citgo Mobil Sun Texaco	Citgo: Regular, Premium Sun: Sunlube, Dynalube, Special Mobil: Regular, Premium Texaco: Havoline
Generic Terms Used for All Gasolines.	
Bagwell Oil Co.	
Union 76	Union 76 Wolf's Head
E. M. Bailey Dist. Co.	
Chevron (r)	Chevron
Beacon Oil Co.	
Beacon (r, p, diesel) (xr, xp) Beacon (xr) †	Sequoia Beacon
Best Oil	
Best (r) No-Lead (p) Firepower (xsp)	Arco Havoline
Bonded Oil Co. (A)	
Bonded (rx) (px)	Bonded Heavy Duty Bonded All Weather
Bray Terminals (A)	
Citgo (r) (p) (sp) (xr, xp, xsp)	Citgo ARCO
Brennan Petroleum	
Brenco (r, x, sp)	
Browning Oil Co.	
Shell (r, xr) (xp) Rally (r, xr)	Shell
Burmah-Castrol (A)	
	Castrol Regular Castrol Heavy Duty Castrol CRF Castrol "R" Racing Oil Castrol Grand Prix Motorcycle Castrol GP Racing Castrol 10W-30, 20W-40 Castrol GTX, 10W-50, 10W-40, 20W-50
Campbell Oil Co.	
Shell Sunoco (r, xr) Sunlite (xp)	Sunoco Citco
Cel Oil Products Corp.	
Cel (r) (p) (sp) Gas Up (r, p, sp) (†)	
CENEX	
Cenex (r) (xr) (xp) (xsp) Cenex Gasohol	Cenex Econex Cenex Cenex Multigrade Cenex Superlube 518
Certified Oil Co.	
Certified (r, xr) Super NL (xp)	Certified Certified 10W-40
Champlin Petroleum Co. (A)	
Champlin (r&xr) Harbor (r&xr) (†)	Champlin Geo-XL Champlin CMO Champlin HIVI Champlin S-3 Plus Champlin Deluxe Champlin TranSeason
Charter Management, Inc.	
Sav-A-Ton (r, xr) (rp, xp) (rsp, xsp) Ten-4, Happy Stores (r, xr) (rp, xp) (rsp, xsp) †	
Charter Marketing Co.	
Charter (r, xp) (xr, xsp) Billups (r, sp) (xr, xsp) †	
Cheker Oil Co.	
Cheker (r, xr) (rsp) (xsp)	Cheker Non-Detergent Cheker H.D. Plus Cheker All Season 10W-40 Cheker ATF
Chevron U.S.A.	
Chevron (r) (xr) Chevron Supreme (xp) Calco (r, xr, xp) (†)	Chevron Delo 100 Chevron Delo 200 Chevron RPM Delo Chevron Special Chevron Delo 300 Chevron Delo 400 Chevron Custom Chevron Delo 300 15W-40
Citadel Corp. (A)	
Citadel (r, p, sp) (xr, xp, xsp) (diesel)	
Cities Service Co.	
Citgo (r) (xr) (xp)	Citgo Non-Detergent Citgo C-300 HD Detergent Citgo C-500 Citgo All Season 10W-30 Citgo All Season 10W-40
Coen Oil Co.	
Amoco	Duplex All Penn Grade Quaker State Ashland Pennzoil Kendall Valvoline Amoco
Colonial Oil Industries	
Eagle (r) Colonial No Lead (xr) (xp)	
Consumers Inc. (A)	
Consumers (r&p) Consumers Gasohol	Liquid Gold Liquid Gold X HD
Conoco	
Conoco Regular (r) (xr) Conoco Super Unleaded	Par Tracon Tracon Supreme Fleet Fleet Supreme Super New Generation All Season
Consumers Gasoline Stations, Inc.	
Consumers (r) (xr) Scot (r) (xr) †	
Consumers Oil Corp. (A)	
Citgo (r, xr) Chevron (r, xr) (†)	Citgo Chevron
Cook & Cooley	
Texaco (r, xp, xsp)	Texaco
Cray Energy (A)	
Citco (r, xp, xsp)	Citco Shell Texaco Pennzoil
Curtis Oil Co. (A)	
American (r) Lead Free Amoco (xr) Amoco Premium (xp)	Amolube Amoco 200 Amoco 300 Amoco M-V Super Premalube 100
K. E. David, Ltd.	
Citgo (r) (x)	Arco
Dead River Co. (A)	
Exxon (r, p, xr) House Brand (r, xr) †	Motor Guard-Int. Lube UniGuard Exxon Extra Exxon Uniflow
DeBlois Oil Co. (A)	
Texaco (r, p, sp) Texaco Super (xr, xp, xsp)	Texaco M.O. Havoline
Delta Marketing Co.	
Red Ace (r, p&sp) (xr) (xp) (xsp) Western (r, p&sp) (xr) (xp) (xsp) Delta (r, p&sp) (xr) (xp) (xsp) Freeway (r, p, sp) (xr, xp, xsp) Red Bird (r, p, sp) (xr, xp, xsp)	D.M.C. Non-Detergent D.M.C. Heavy Duty D.M.C. 10W-40
Derby Refining Co.	
Derby (r) Star Kleen (x) Premium Unleaded w/Ethanol	Triumph Super Flex Ultra-Life Premium E2
Diamond Shamrock Corp.	
Trail Master (r) Cloud Master II (xr) Fill-Em-Fast (r) (xr) (xp) †	Genuine Liberty LPG-NG Triple Action Triple Action S-3 Equa Flow
Dominion Oil Co.	
BP (r, p&sp) (xr, xp, xsp) Union (r, p, sp) (xr, xp, xsp)	Union BP
East Coast Oil Corp.	**East Coast** Thrift Quaker State Pennzoil

Key

Gasoline	**(r)**	**Regular**
	(x)	**Unleaded**
	(p)	**Premium**
	(sp)	**Superpremium**
	(†)	**Secondary brand**

(A) Most recent information available. No reply received from current questionnaire.
Source: NPN questionnaires.

Gasoline	Motor Oil
Eddy Refining Co. (A)	
Eddy Regular (r) Eddy No-Lead (xp) Eddy Premium No-Lead (xsp)	
Elm City Filling Stations (A)	
Elmco (r) (xr) Elmco (°p) Elmco (sp, xsp) Nutmeg (r, xr) †	MacMillan Motor Oils
Englefield Oil Co.	
	Marathon Phillips Mobil
Exxon Co., U.S.A.	
Exxon (r) Exxon Unleaded (xr) Exxon Extra (rp) (xp) Alert (r&p) (xr) †	Oilex Exxon Plus Exxon Extra Uniflo
Farmland Industries (A)	
Co-op (r)	Co-op Double Circle Co-op Dual Season Co-op Diesel Engine
FCX, Inc.	
Unico (r) (xr&p)	Unico
Fireline Petroleum	
Fisca Oil Co.	
Fisca (r) Fisca (xr, xp)	Fisca HD Fisca 10W-40
Flying J Oil Co. (A)	
Flying J (r&p) (xr) Fastway (r&p) (xr) (†)	
Don Foster Oil Co.	
(r, xr) Super Unleaded (xp) (r, xr) † Gasohol (xp) †	Mobil Sunoco Pennzoil
FS Services (A)	
FS Super Power (r) (xr)	FS Blue Circle FS Super Lube FS Low Ash FS Multi-Range FS Super Lube 15W-40
Gasco Gasoline	
Gasco (r, p, sp) (xr, xp, xsp) Jiffy (r, p, sp) (xr, xp, xsp) †	Gasco Economy Gasco Premium HD Gasco All Season
Gem Petroleum—Shop & Go	
Citgo (r, p, sp, Diesel) (xr, xp, xsp, x Diesel) Amoco (r) † Texaco (p) † Union (sp) † Phillips (Diesel) †	Shop & Go Premium Quaker State Pennzoil Citgo
Getty Refining & Marketing Co.	
	Getty Skelly
Giant Industries	
Giant (r, p, Diesel, xr, xp, x Diesel)	
Golden Gate Petroleum Co.	
	Bapco Holdner Texaco Union Shell
Golden Imperial	
Imperial Regular (r) Imperial Leadfree (xr) Imperial Premium Leadfree (xp)	Lonestar
Golub Corp.	
Chevron (r, xr)	
Great River Oil Co. (A)	
Great River (r) GR Premium (xsp) Oklahoma (r) (†) Oklahoma Super Unleaded (xr) (†)	Great River Quaker State Pennzoil Amoco Super Permalube Amoco LDO
Gresham Petroleum Co. (A)	
Amoco (r, xr) Amoco (xsp)	Amoco
Growmark, Inc. (A)	
FS Super (r, xr)	FS Blue Circle FS Multi-Range FS Super Lube
Gulf Oil	
Good Gulf (r) Gulf Crest (xr) Gulf Super (xsp)	Gulflube Gulf Pride Single G Gulf Pride SP
Gull Industries	
(r, xr, xsp)	
Herbst Oil Co.	
Super Unleaded	
Highway Oil (A)	
	Workingman's Friend
Hi-Quality Lo-Cost Service Stations	
Hi-Quality Low-Cost (r, xr, xp)	
Barney Holland Oil Co.	
Texaco (r, xr, xp)	Texaco Exxon Quaker State Conoco Havoline Pennzoil
Hop-In Food Stores	
Hop-In (r, p, sp, xr, xp, xsp)	Hop-In
Horkey Oil Co.	
Shell (r, p, xr, xp) Red Dot (r, p, xr, xp)	Shell
Horn Distributing Co.	
Gulf (r, p, sp, xr, xp, xsp)	Gulflube Gulf Pride
Hornet Oil Co. (A)	
Hornet (r&p) (xr)	
Hudson Oil Co. (A)	
Hudtane (sr) Hudson Super Regular (r) Hudson Premium (p) Hudson Unleaded (xr)	Hud Hudson Heavy Duty Hudson Premium 10W-40 Hudson ATF
Hughes Oil Co.	
Mobil (r, xr) Phillips 66 (p, xp) Lil Champ (r, xr) † Jiffy (p, xp) †	Mobil Phillips 66
Hull Oil Co.	
Hull (r) (xr) (xsp)	Phillips
Imperial Florida Oil Co. (A)	
Imperial (r&p) (x)	Imperial HEP Imperial Premium Imperial AW
J. S. & J. Service	
Jimmys (r, p) (xr, xsp)	
Kelley-Williamson Co. (A)	
Mobil (r, sp)	Mobil
Kent Oil Co.	
Shell (r)	
Kerr-McGee Refining Corp. (A)	
K-M (r, xr, xp)	Kerr-McGee Valulube Blue Max "All Fleet" Kerr-McGee Heavy Duty Kerr-McGee Blue Velvet FEO
Key Energy Enterprises, Inc.	
Union (r, p, sp, other) (xr, xp, xsp, x other) Key (r, p, sp, other) (xr, xp, xsp, x other) †	
Kickapoo Oil Co. (A)	
Kickapoo (r) (xp)	
Kimber-Allen Petroleum Corp.	
	Amoco Citco Getty Quaker State
Kingston Oil Supply Corp.	
Chevron (r, p, sp, xr, xp, xsp)	Chevron
Koch Marketing Co. (A)	
Regular (r) Premium (p) Unleaded (mg x)	Longlife Lube High Performance 10W-40
Land O'Lakes, Inc.	
Land O'Lakes (r, p, sp) (xr, xp, xsp)	Golden D Supreme 212
Lido Co. of New England	
Lido (r, p, xr, xp)	Lido
Little Oil Co.	
Phillips (r, p, sp)	
Macmillan Ring-Free Oil Co. (A)	
	Royal Scot Macmillan Ring-Free Macmillan Ring-Free Premium
Marathon Oil Co.	
Mile-Maker (r) (xr) Super-M (xp)	VEP Heavy Duty All-Season 10W-30 Multipower—Straight Weight Superior All Season 10W-40 Endurance Oil High Performance All Season 20W-50 Multipower-3 15W-40 Ultra-D 5W-40
Martin Oil Marketing, Ltd.	
Martin (r, p, Ethanol Enhanced) (xr, xp, xsp)	Martin Oil Martin HD Martin 10/30 Martin 10/40
Martin Oil Service (A)	
Martin Regular (r) Martin Premium (p) Martin Unleaded (xr) Martin Gasohol	Martin Martin Heavy Duty Martin All Season 10W-30, 10W-40
McDowell Oil Service, Inc.	
ARCO (r) ARCO Clear (xr) ARCO Supreme (xp)	
Merit Oil Corp.	
Merit (r, xr, xp)	Merit Economy Merit 10W-40 Merit ATF
Mico Oil Co.	
Mico (r, xr, p)	Fisca HD Fisca 10W-40
Midland Cooperatives (A)	
Fire Power (r&p) Fire Power (x)	Lanco Midco Golden D Supreme
Mid Missouri Oil Co.	
Shell (r, xr, xp)	Shell
Midwest Oil Co. (A)	
Midwest (r&p) (x)	Moco Midwest Premium Midwest Hi-Det Midwest Hi-Det MF
Miller Oil Co.	
Phillips (r, p, sp, xr, xp, xsp) Exxon (r, p, sp, xr, xp, xsp) †	Phillips Drydene Exxon Valvoline
Mobil Oil Corp.	
Mobil Regular (r) Mobil Unleaded (xr) Mobil Super Unleaded (xp) Reelo (r, xr) † Reelo Super Unleaded (xp) † Sello (r, xr) † Sello Super Unleaded (xp) † Hi-Val (r, xr) † Hi-Val Super Unleaded (xp) † Big-Bi (r, xr) † Big-Bi Super (xp) † Lo-Lo (r, xr) Lo-Lo Super Unleaded (xp) †	Mobil Regular Mobil HD Mobil Special Mobil Super Mobil 1 (100% Synthetic)
Munford, Inc.	
Gulf Texaco Amoco Citgo Spur Shell Marathon Majik Market 500	Gulf Texaco Amoco Citgo Spur Shell Marathon Majik Market 500
Murphy Oil Corp.	
Spur (r) (xr, xp)	Spur Durable Spur HD Spur EMO

Brand Names (cont'd).

Gasoline	Motor Oil
National Oil & Gas Inc.	
Phillips (r, p, xr, xp) Cities Service (sp, xsp, other) Marathon (r, p, sp, other) † (xr, xp, xsp, x other) †	Phillips
R. B. Newman Fuel Corp.	
Neco (r, xr, xp)	Mobil
Orleans Oil Co. (A)	
Phillips 66 (r, p, sp, xr) Canal (r, p, sp, xr) †	Unique MM TropArtic HDS
Osceola Refining Co.	
TA Energy (r, xr, xp)	
Pacer Oil Co.	
Daisy (r, p, sp, other)	
Curtis Parker Oil Co.	
Amoco Regular (r) Amoco Lead Free (xr) Amoco Premium Lead Free (xsp)	AmoLube Amoco 200 Amoco M-V Amoco LDO
Peavey Oil Co.	
Texaco (r, p, sp, other)	Texaco Chevron Valvoline Pennzoil
Pennsylvania Petroleum Products Co. (A)	
	Quaker City Economy Quaker City Premium Quaker City HD Quaker City 10W-30 Quaker City 10W-40 Quaker City 20W-50 Quaker City HD 10W-50 Quaker City 15,000 Mile Quaker City Outboard Quaker City Racing Quaker City Dexron Quaker City Type F Quaker City Type A Brytol 10W-30, 10W-40, 10W-50, 20W-50
Pennzoil Co. (A)	
Pennzoil (r&p) Pennzoil (x)	Pennzoil Regular Pennzoil Z-7 Pennzoil Multivis, W/Z-7 PZL Extended Life
Pester Corp. (A)	
Pester (r, p, sp, other, xr, xp, xsp, x other) Pester (r) † Derby (xr) †	
Petroleum Sales & Service	
Amoco (r, p) (xr, xp)	Chevron Amoco Quaker State
Pettway Oil Co.	
Amoco (r, p, xr)	Cash-Carry AmoLube Amoco M.V. L.D.O.
Phillips Fuel Co.	
Texaco (r) (xr)	Texaco Havilands
Phillips Petroleum Co.	
Phillips 66 (r, xr, xp)	Unique MM Trop-Artic
Plasa Motor Fuels	
Conoco (r) (xr, xp)	Conoco
Port Oil	
Port (r, p, sp)	Port Regular Port HD Port 10W-40 Port Dextron ATF
Powerine Oil Co.	
Powerine (r, p, xr, xp) Coin-Op (r, p, xr, xp) †	
Power Test Corp.	
Power Test (r, xr) Super Power Test (xp)	Power Test Power Test HD Power Test All Seasons Power Test Powermatic ATF (Dexron) Power Test Powermatic ATF (Ford)
Pride Oil Co., Inc. (Tenn.)	
Tenneco (r, xr, xp) (diesel)	Kendall Pennzoil Quaker State Havoline
Private Brand Services, Inc.	
PBS (r, xr) PBS (r, xr) †	Pennzoil
Quaker State Oil Ref. Corp.	
Sterling (r) (xr)	Quaker State Regular Quaker State HD Quaker State HDX Universal Fleet Oil Quaker State Racing Oil Quaker State Super Blend Quaker State Deluxe Quaker State Sterling
Racetrac Petroleum	
Racetrac (r, xr, xp) Raceway (r, xr, xp) †	
Reinhardt Oil Corp.	
Sun (r, xr) Sunlight (xp)	
Remote Services (A)	
Convenient (r) (xr) Petco (r, xr) (xp) †	
Reynolds Industries	
Port (r, p, xr)	
River Oil Co.	
Phillips (r, mg)	Phillips
Rock Island Refining Corp.	
	Empire State Moto Lube Penn Lube Valvoline Quaker State
Rocket Oil Co.	
Rocket (r, xr, xp)	
Rogers Oil Co.	
Diamond (r&p) (xr)	
Romaco	
Parade (r, p, sp, other) (xr, xp, xsp, x other) † Citgo (r, p, sp, other) (xr, xp, xsp, other) † Fina (r, p, sp, other) (xr, xp, xsp, other) †	
Ryan DeWitt Corp.	
Exxon (r, p, sp, xr) Ashland (r) † Hess (xr) †	Exxon
Santee Oil Co., Inc.	
Shell (r, xr, xsp)	Fire & Ice X-100 Rotella Shell
Save-X, USA, Inc.	
Save-X (r, xr, xp) Serv-N-Save (r, xr, xp) †	Spur Havoline Quaker State
Shelby Petroleum Corp.	
Peer (r, p) (xr, xp) Bonus (r, p) (xr, xp) †	Bonus Regular Sail Premium Peer Premium Peer 10W-40
Shell Oil Co.	
Shell (r) Shell (xr) Shell Super (xp)	Shell Motor Oil Shell X-100® Shell Fire & Ice®
Shotmeyer Bros.	
Mobil (r, p, sp, other)	Mobil
The SICO Co.	
Amoco (r, p, sp) (xr, xp, xsp) ARCO (r, p, sp) (xr, xp, sp) † Texaco (r, p, sp) (xr, xp, sp) †	Citgo ARCO Valvoline Texaco Amoco
Sigmor Corp.	
See Diamond Shamrock	
Simmons Oil Corp.	
Simmons (r, p, sp) (xr, xp, xsp) Simmons (r, p, sp) (xr, xp, xsp) †	
Simon Oil Co.	
Sunoco (r, xr) Mobil (r, xr)	Sunoco Mobil
Sinclair Marketing (A)	
Sinclair Dino (r) Dino Supreme (p) Sinclair Unleaded (x)	Dino Econoil Dino Dinolene Dino Supreme
Smith-Shafer Oil Co.	
SS (r, xr, xp)	Chevron Quaker State
Standard Oil Co. (Indiana)	
Amoco (r, p, xr, xp)	Amoco Amolube Amoco 100 Amoco 200 Amoco 300
Standard Oil Co. (Ohio)	
Octron (r) Cetron (xp) Wm. Penn (r&p) (xr) Gas & Go (r, xr) †	Premex 10W-30 BP Extra Duty 10W-30 Nitrex MPG5W-40
J. D. Streett & Co.	
Zephyr (r, xr, xp) (diesel) Martin (x, xr, xp) †	Cardinal Outboard Zephyr HPX SA Zephyr Super Multipurpose Zephyr SMP All Weather Zephyr Super HD Zephyr LMO
Star Oil Co.	
Shell (r, p, sp)	Shell
Steuart Petroleum Co.	
Chevron (r, p, sp, diesel) (xr, xp, xsp) Steuart (r, p, sp, diesel) † (xr, xp, xsp)	Kendall Pennzoil Sun
Suburban Propane Gas Corp.	
Plateau (r, xr, xp) Malco (r, xr) †	
Sun Co.	
Regular (r) Regular Plus (xr) Super (xsp) Economy (x other) Regular (r, xr) † Premium (r, xr) †	Diamond Sun Lube Dynalube Special MPG Plus
Sunny Service Stations, Inc.	
Tanner Oil Co.	
Rich (r&xr) Rich Super Unleaded (xp)	Valvoline
Taylor Oil Co.	
Etna (r, xr, xp)	Etna Premium Etna 10W-40
Tenneco Oil Co. (A)	
Tenneco (r&p) (x) Direct (r&p) (other x) (†) Bay (r&p) (other x) (†) Trust (mg) (†) Caldor (mg) (†)	Shur-Lube Tenneco Special Detergent Tenneco ATF Direct Premium Tenneco Extra HD Tenneco Four Seasons
Herbst	
Terrible's Super (sp) Terrible's Ethyl (other) Terrible's Unleaded (other) (x)	
Tesoro Petroleum Corp. (A)	
Tesoro (r&p) (x)	
Texaco Inc.	
Texaco (r&sp) Texaco (xr&xsp) Texaco with Ethanol (r&xsp)	Texaco Havoline Havoline Supreme
Texas Star Oil Co.	
Texas Star (r) (xr) (xsp)	TSO Superior Golden Eagle TSO Fleet Lub.

	Gasoline	Motor Oil
Thornhill Oil Co., Inc.	Conoco (r, xr)	New Generation PAR Super
Thornton Oil Corp.		Thornton Pennzoil
Tooley Oil Co.	Tooley's (r, p, xr, xp)	Pennzoil
Total Petroleum	Total (r, p, sp, other) † (xr, xp, xsp, x other) † Apco (r, p, sp, other) † (xr, xp, xsp, x other) † Vickers (r, p, sp, other) † (xr, xp, xsp, x other) † Best (r, p, sp, other) † (xr, xp, xsp, x other) †	APCO Defiance Total Dura Lube Vickers Big Value Total Super HD Vickers Golden Supreme Total Superlube Total 500 Vickers 10W-40
Travelers Petroleum	Self Way (r) (xr) (xp)	
Trenton Oil Co.	Amoco (r, xp, xsp)	
UCO Oil Co. (A)	UCO (r, mg&p) (x)	
Union Oil Co. of Calif.	Union 76 (r) (xr) Union 76 Super (p) (xp)	Union Special Union Custom Union Premium Union High Performance Union Super Union Long Distance Purple
United Refining Co. (A)	Keystone Powerfuel (r) Keystone Powerclean (xr) Keystone Powerlite (xp)	Powerlube Emblem
U.S.A. Oil (A)	USA (r&p) (other x)	Saxon
USA Petroleum Corp. (A)	USA (r&x) USA (p)	Rival USA Economy USA Premium USA All States
Valvoline Oil Co. (A)		Valvoline ND Valvoline HD Super HPO Valvoline HP Racing MO Valvoline All-Fleet Valvomatic Automatic Trans. Fluid Valvoline All-Climate HD Valvoline XLD
Wake Up Oil Co.		
Warelubco, Inc. (A)		Wareco Premium Wareco Plus Wareco Super All Season
Webaco Oil Co.	Citgo (r, xr) Ashland (r, xr) †	Citgo
Webster Oil Co.	Phillips (r, xr)	Trop Arctic All Brands
Wesson		
Western Marketing Inc. (A)	Conoco (r, p, sp, other) (xr, xp, xsp, x other) Champlin (r, p, sp, other) (xr, xp, xsp, x other) †	Conoco (Fleet, Fleet Supreme, New Generation) Shell (Rotella, Rimula, Rotella T) Kendall
Western Petroleum Co. (A)	Action (r&p) (x) U-Pump-It (r&p) (mg) (x)	
Wickland Oil Co.	Regal (r, p) (xr) (xp) (sp)	Gold Shield Quaker Pennzoil
A. T. Williams Oil Co. (A)	Wilco (r, p, sp)	Wilco
J. H. Williams Oil Co.	Union 76 (r, xr, xsp)	Union Custom Union HD Union Premium Union Super Union High Performance Union Long Distance Purple
Witco Chemical Corp. (A)		Kendall Dual Action Kendall Superb Kendall GT-1 Kendall F-L Select Kendall Super-D III (also makes and markets the following brand name) Amalie HD-1 Amalie 1-2-3 Amalie Imperial Amalie Pro
Young Oil Co.	Young (r, p, sp)	
Zephyr	Zephyr (r, xr, p, xp) (sp, xsp)	Zephyr XLL

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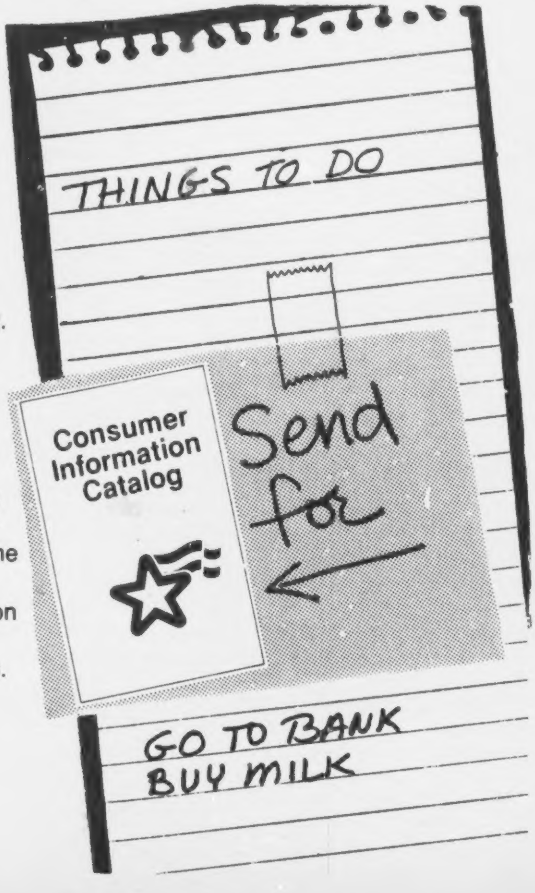

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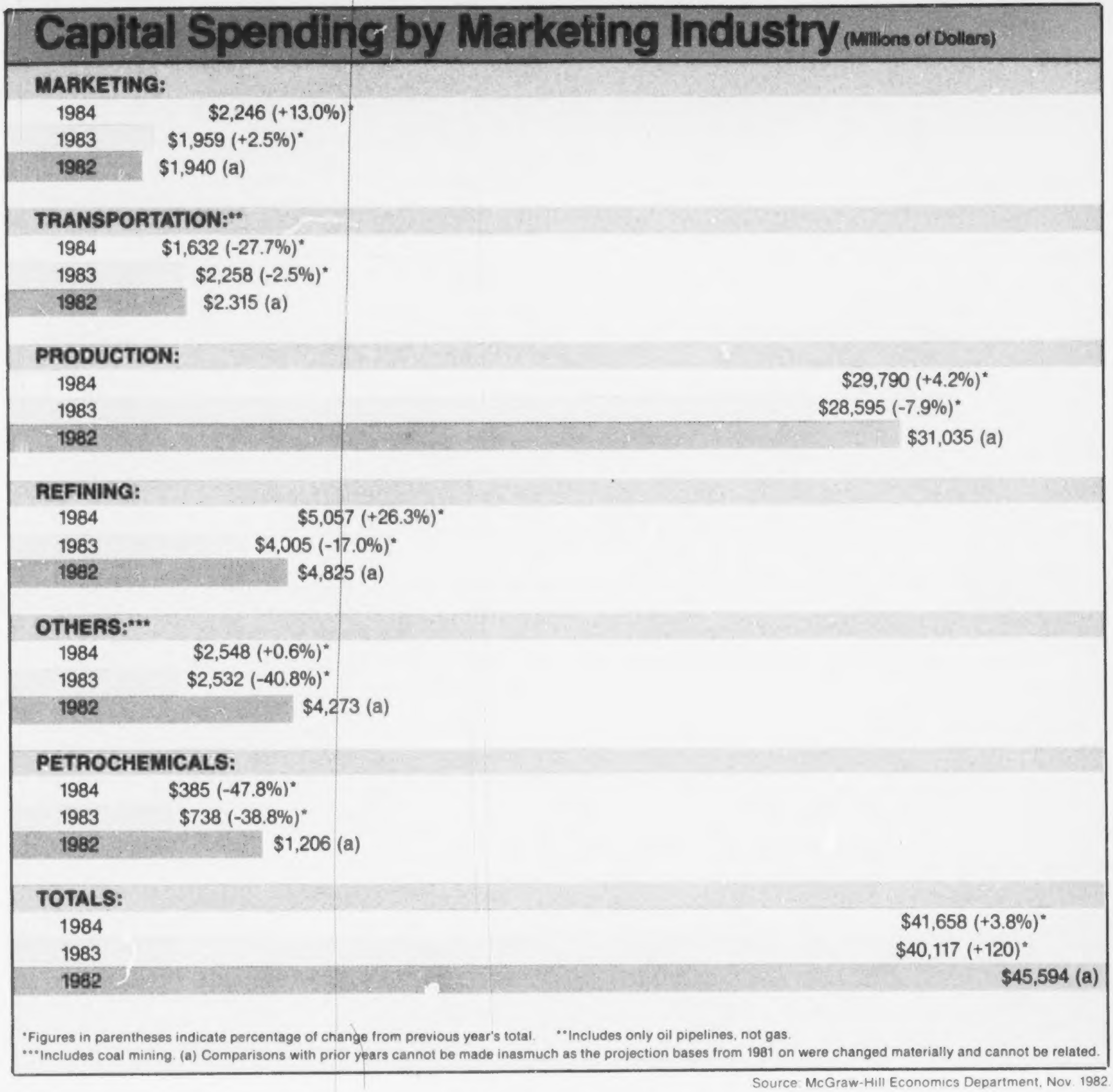

Capital Spending by Marketing Industry (Millions of Dollars)

*Figures in parentheses indicate percentage of change from previous year's total. **Includes only oil pipelines, not gas.
***Includes coal mining. (a) Comparisons with prior years cannot be made inasmuch as the projection bases from 1981 on were changed materially and cannot be related.

Source: McGraw-Hill Economics Department, Nov. 1982.

Cutbacks Continue as Earnings Slump Anew

Declining earnings in 1982 and the expectations that 1983 would see more of the same prompted most oil companies to prune and re-prune their capital spending plans in the gathering gloom.

The annual forecast issued by McGraw-Hill's Economics Department in the fall of 1982 (above) was revised downward in the late spring—not heavily, but nevertheless on the negative side.

"There were many signs that a turnaround had gotten underway late in the first quarter of 1983, but whether it will be sustained and/or increased throughout the year remains to be seen.

The fuzz really came off the peach in the 1982 forecast that McGraw-Hill turned loose last fall. It seemed almost unbelievable when placed side-by-side with the optimistic projection it had made in late 1981.

In 1981, for example, McGraw-Hill predicted oil's capital spending would hit $56.6-billion in 1982 and $61.2-billion in 1983. The fall forecast downgraded the 1982 total to $45.6-billion; the 1983 total to $40.1-billion; and the 1984 outlook to $41.7-billion.

Exploration, production and refining bore the brunt of the 1982-84 cutbacks in last fall's projection.

The continuing surplus of crude oil and products discouraged drilling programs of the major companies at home and abroad. Similarly, with refineries bumping along at a 70% operating level and many being mothballed for that reason, the industry obviously had less appetite for major expenditures in this area.

Marketing, despite the slowdowns, seems to be faring reasonably well.

The 1981 projection indicated that the industry would spend about $2.4-billion on marketing projects in 1982 and $2.6-billion in 1983. The fall forecast called for $1.9-billion in 1982; $2.0-billion in 1983, and $2.2-billion in 1984.

Most of this funding was expected to go into the upgrading and modernization of service stations as well as expansion of self-serve pumper and convenience store facilities.

The projected marketing investments represent a 2.5% increase in 1983 over 1982, and a 13.0% increase in 1984 over 1983. The $2.2-billion that oil has earmarked for 1984 is a near record for any one year. The previous actual high was 1981 when marketing investments totaled $2.1-billion.

If the economy improves through 1983, it may be that McGraw-Hill's forecast next October will be on the sunny side again. As with 1981 and 1982, however, much will depend on oil company earnings in 1983.

Historical Overview: 34 Years of Capital Spending in the Oil Industry

	1981	Estimated 1982	Planned 1983	Planned 1984
Production	$31,233	$31,035	$28,595	$29,790
Transportation(a)	2,842	2,315	2,258	1,632
Refining	3,874	4,825	4,005	5,057
Petrochemicals	1,369	1,206	738	385
Marketing	2,121	1,940	1,989	2,246
Other(b)	3,853	4,273	2,532	2,548
Total Petroleum	**45,292**	**45,594**	**40,117**	**41,658**

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
Production	$ 3,356	$ 4,098	$ 4,307	$ 6,803	$ 8,925	$11,144	$12,593	$14,986	$17,039	$21,423
Transportation(a)	572	532	708	907	1,681	1,832	1,191	989	1,473	2,001
Refining	1,232	1,062	1,013	1,716	2,275	2,531	2,025	2,071	3,070	3,378
Petrochemicals	361	300	339	729	847	1,092	1,245	1,239	946	1,053
Marketing	1,322	1,110	777	614	632	632	790	1,616	1,433	1,814
Other(b)	510	570	610	860	1,070	970	1,450	1,920	2,140	2,850
Total Petroleum	**7,353**	**7,672**	**7,754**	**11,629**	**15,430**	**18,201**	**19,294**	**22,821**	**26,101**	**32,519**

	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
Production	$ 3,458	$ 3,382	$ 2,990	$ 3,584	$ 3,382	$ 3,788	$ 3,595	$ 3,980	$ 4,581	$ 3,541
Transportation(a)	321	286	249	319	249	321	414	542	526	615
Refining	459	433	385	384	565	631	956	1,019	1,023	1,152
Petrochemicals	260	252	340	173	343	597	561	600	564	564
Marketing	533	538	560	655	747	926	1,065	1,097	1,141	1,392
Other(b)	132	154	168	281	365	310	453	408	416	510
Total Petroleum	**5,163**	**5,045**	**4,692**	**5,396**	**5,651**	**6,573**	**7,044**	**7,646**	**8,251**	**7,774**

	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960
Production	$ 2,388	$ 2,754	$ 2,779	$ 2,992	$ 3,500	$ 3,593	$ 3,603	$ 3,203	$ 3,474	$ 3,339
Transportation(a)	300	400	450	350	249	261	423	317	276	306
Refining	339	446	661	686	590	694	877	657	402	455
Petrochemicals	NA	NA	NA	NA	NA	NA	NA	NA	115	150
Marketing	300	280	325	350	364	426	426	404	461	498
Other(b)	50	50	50	50	45	67	70	92	90	94
Total Petroleum	**3,377**	**3,930**	**4,265**	**4,428**	**4,748**	**5,041**	**5,399**	**4,673**	**4,818**	**4,842**

(a) Includes oil pipelines but not gas pipelines; (b) includes coal mining.

Source: McGraw-Hill Publications Co., Department of Economics. The figures in the tables represent capital spending of integrated petroleum companies in the mining, transportation, and retail trade sectors. The figures are not comparable with the petroleum figures in McGraw-Hill's regular capital spending report, in which the petroleum category includes spending of refiners and integrated companies only.

How Oil Companies Handle

			BRANDED SERVICE STATIONS					
MAJOR OIL COMPANIES	TOTAL BRANDED RETAIL OUTLETS†	TOTAL NUMBER OF STATES WHERE GASOLINE BRAND IS MARKETED†	Total true branded service stations	Supplied directly	Supplied through jobbers and commission agents	Lessee/dealer operated	Salary operated	Commission operated
Amoco Oil Co.	17,765(N)	44	NA	5,934	NA	NA	143	0
Atlantic Richfield	5,260(P)	26	5,260	3,592	1,668	NA	NA	NA
Chevron USA	12,403	41	7,679	5,364	2,315	7,591	88	0
Exxon Co., USA	20,119(C)	41	20,119(D)	8,082	12,037	NA	NA	NA
Gulf Oil Co., USA	14,598	—	14,598	5,689	8,909	13,949	649	—
Mobil Oil Corp.	16,216(Q)	44	NA	NA	NA	NA	NA	NA
Shell Oil Co.	12,282	40	12,282	5,353	6,929	5,207	146	—
Texaco, Inc.	18,692	45	17,758	4,409	13,042	13,042	3	304
SEMI-MAJOR OIL COMPANIES								
Ashland Petroleum Co.	194	8	194	37	157	194	0	0
Cities Service Co.	4,727	32	833	833	0	76	354	403
Conoco, Inc.	4,702	28	NA	NA	NA	NA	NA	NA
Diamond Shamrock Corp.	1,847	24	1,847	549	1,298	1,300	546	1
Getty Refining & Marketing Co.	4,494	28	4,494	2,002	2,492	4,141	353	0
Kerr-McGee Refining Corp.	1,814	18	1,778	24	1,754	7	17	0
Marathon Oil Co.	2,209	6	2,187(H)	626(I)	1,659	486(I)	0	0
Murphy Oil Co.	717	14	717	563	154	237	0	0
Phillips Petroleum Co.	12,035(T)	38	12,035(K)	222(K)	11,813(K)	NA	222	NA
Standard Oil Co. (Ohio) (xxx)	2,200	20	NA	NA	NA	NA	NA	NA
Sun Co., Inc.	7,866	30	7,230	4,204	3,026	7,090	140	—
Tenneco Oil Co. (xxx)	484	17	484	484	—	16	468	—
Union Oil Co. of Calif.	12,669	45	9,609	3,053	6,556	2,415	138	0(L)
INDEPENDENT OIL COMPANIES AND SELECTED OIL JOBBERS								
Ada Resources	165	1	166	86	79	139	26	0
Agway Petroleum Corp. (xxx)	283	9	264	264	—	129	133	2
American Petrofina	4,201(M)	20	3,361	0	3,361	0	0	0
Amos Post, Inc.	33	1	33	26	7	6	8	5
Arkla Chemical Corp.	4	2	3	3	0	3	1	0
Armour Oil Co.	75	7	—	—	—	—	—	—
Asamera Oil, Inc. (U.S.)	93(O)	10	93	93	0	66	26	1
Atlas Oil Co. of Utica, Inc. (xxx)	7	1	7	7	0	3	—	—
The Augsbury Corp.	133	2	133	100	30	12	37	8
Automatic Comfort Corp.	53	1	21	21	0	21	0	0
Bagwell Oil Co.	18	2	4	4	0	4	0	0
E. M. Bailey Distributing Co.	86	1	60	60	0	20	25	15
Beacon Oil Co.	292	2	292	124	168	65	55	178
Best Oil Inc.	3	1	3	—	—	—	—	—
Bray Terminals Inc. (xxx)	54	1	54	6	49	49	6	—
Brennan Petroleum	3	1	3	3	0	0	3	0
Browning Oil Co.	17	1	16	16	0	3	6	7
By-Lo Oil Co. (xxx)	15	1	4	4	0	0	4	0
Campbell Oil Co.	54(R)	1	33	33	0	16	0	0
Caribou Four Corners (xxx)	60	10	—	—	—	—	—	—
Cel Oil Products Corp.	16(T)	1	8	8	0	3	5	0
Cenex	1,177	14	1,050	1,050	0	1,010	40	0
Certified Oil Co.	210	3	—	—	—	—	—	—
Champlin Petroleum Co. (xxx)	863	18	445	445	—	72	369	4
Charter Management Inc.	10	2	10	10	0	0	10	0
Charter Oil Co.	320(U)	6	320	320	—	0	318	2
Cheker Oil Co.	318(V)	16	381	381	0	7	357	17
Citadel Corp. (xxx)	11	3	11	11	—	—	—	—
Coen Oil Co.	200	1	150	150	0	148	1	1
Colonial Oil Industries, Inc.	71(W)	3	71	71	0	0	71	0
Como Oil Co. (xxx)	30	1	30	30	—	29	1	—
Conna Corp.	285(a)	11	285	285	0	0	16	269
Consumers Gasoline Stations	34(Y)	2	34	34	0	—	—	—
Consumers Oil Corp.	16	2	16	16	0	4	11	1
Consumers Petroleum Co.	20	1	—	—	—	—	—	—
Cook & Cooley, Inc.	100	1	—	—	—	—	—	—
Crown Central Petroleum Co.	NA	8	0	All	—	—	—	—
Crystal Flash Petroleum	32(Z)	2	32	32	0	0	32	0
Crystal USA Oil Co.	116	9	0	101	0	101	15	0
C.S.C. Oil Corp.	22	2	16	16	0	0	16	0
K. E. David, Ltd.	8	1	—	—	—	—	—	—
Dead River Co. (xxx)	135	2	50	50	—	48	0	2
DeBlois Oil Co. (xxx)	43	2	37	37	—	18	16	3
Delta Marketing Co.	337	12	337	337	0	18	319	0
Derby Refining Co.	520	12	510	130	380	—	—	—
Diamond Shamrock Corp. (formerly Sigmor)	1,847	24	1,847	549	1,298	1,300	546	1
Dixie Oil Co. (xxx)	97	3	97	—	—	—	97	—
Dominion Oil Co.	26(b)	1	18	18	0	18	0	0
Drake's Refinery Stations, Inc.	12	1	12	12	0	0	12	0
East Coast Oil Corp.	32	1	32	32	0	0	32	0
Elm City Filling Stations, Inc. (xxx)	60	1	60	60	0	51	8	1
Englefield Oil Co.	77	2	—	—	—	—	—	—

(*) Total branded retail outlets include garages, motels, C-stores, and service stations. By U.S. Census Bureau definition, only establishments generating 50% or more of their income from the sale of petroleum products and services are service stations.

(†) Total number of states where gasoline is branded includes the District of Columbia.

(xxx) Latest data available. Company either did not respond to the 1983 questionnaire or did not answer all of the questions fully.

(A) Full-line.

(B) Branded heating fuel.

Product Distribution

			BRANDED JOBBERS				COMMISSION AGENTS			
				NUMBER SELLING . . .				NUMBER SELLING . . .		
100% full service	100% self service	Service and self service	Total	Gasoline only	Fuel oil only	Gasoline/fuel oil	Total	Gasoline only	Fuel oil only	Gasoline/fuel oil
NA	NA	NA	1,961	NA	NA	1,961	2	NA	NA	2
NA	NA	NA	189	189	0	0	0	0	0	0
3,769	208	3,702	777	457(A)	96(B)	224(C)	87	—	—	87
NA	NA	NA	972	26	0	946	3	0	0	3
—	—	—	1,715	14	921	780	49	—	—	—
NA	NA	NA	1,996	46	655	1,295	36	0	0	36
943	1,150	3,260	612	0	12	600	0	0	0	0
NA	NA	NA	1,176	NA	NA	NA	6	NA	NA	NA
184	0	10	36	6	5	25	159	0	0	159
42	708	83	350	0	0	350	0	0	0	0
NA	NA	NA	830	NA	NA	NA	0	0	0	0
NA	NA	NA	150	—	—	—	1	1	0	0
—	—	—	582	0	0	582	—	—	—	—
50	100	1,628	429	97	58	274	0	0	0	0
902	101	1,184	79	0	9	70	0	0	0	0
80	560	77	0	0	0	0	0	0	0	0
NA	NA	NA	1,693	NA	NA	NA	2	0	0	2
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA	0	0	0	0
9	443	32	25	25	—	—	3	3	—	—
2,393	2,180	5,036	431	0	0	431	27	0	0	27
139	26	0	19	0	0	19	3	0	0	3
6	256	2	31	5	3	23	2	2	—	—
1,008	840	1,513	445	378	0	67	0	0	0	0
22	7	4	2	1	0	1	—	—	—	—
2	1	1	2	0	0	2	0	0	0	0
—	—	—	—	—	—	—	—	—	—	—
0	89	4	0	0	0	0	0	0	0	0
7	—	—	0	—	—	—	—	—	—	—
50	73	10	3	0	0	3	0	0	0	0
21	—	—	0	0	0	0	7	7	0	0
4	—	—	NA	—	—	—	0	0	0	0
17	33	10	—	—	—	—	6	—	—	6
66	203	23	45	45	0	0	0	0	0	0
0	3	0	0	0	0	0	0	0	0	0
54	—	—	87	12	75	87	—	0	0	0
0	3	0	0	0	0	0	0	0	0	0
0	2	14	0	0	0	0	0	0	0	0
4	—	—	0	—	—	—	0	—	—	—
40	2	11	0	0	0	0	0	0	0	0
—	—	—	—	—	—	—	—	—	—	—
8	0	0	0	0	0	0	0	0	0	0
0	470	580	900	0	0	900	0	0	0	0
—	—	—	—	—	—	—	—	—	—	—
NA	NA	NA	304	NA	NA	NA	0	0	0	0
0	10	0	NA	NA	NA	NA	0	0	0	0
—	320	—	0	—	—	—	2	2	0	0
12	386	6	0	0	0	0	0	0	0	0
—	—	0	—	—	—	—	0	—	—	—
—	—	—	0	—	0	0	0	0	0	0
5	9	57	0	0	0	0	0	0	0	0
13	1	16	—(X)	—	—	—	0	—	—	—
11	274	0	0	0	0	0	0	0	0	0
14	18	1	0	0	0	0	0	0	0	0
5	0	11	0	0	0	0	0	0	0	0
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
0	22	10	0	0	0	0	0	0	0	0
0	99	17	0	0	0	0	0	0	0	0
3	6	7	0	0	0	0	0	0	0	0
—	—	—	—	—	—	—	—	—	—	—
50	0	0	0	—	—	—	2	2	—	—
28	9	—	0	—	—	—	3	3	—	—
0	327	10	0	0	0	0	0	0	0	0
1	68	58	86	0	0	86	0	0	0	0
NA	NA	NA	150	—	—	—	1	1	0	0
—	50	40	90	50	—	40	—	—	—	—
0	0	18	0	0	0	0	0	0	0	0
1	11	0	0	0	0	0	0	0	0	0
2	22	8	0	0	0	0	0	0	0	0
57	3	—	1	—	—	1	1	1	—	—
—	—	—	—	—	—	—	—	—	—	—

(C) Branded lube oil.
(D) Retail outlets.
(E) Estimated.
(F) Total wholesale distribution plants, including terminals.

(G) Terminals and bulk plants.
(H) Total retail gasoline outlets minus car washes and L&K's/Nickerson Farms.
(I) Dealer transported delivered and temporarily closed units and sellers and owner ops.
(J) 15 privately owned.

How Oil Companies Handle

	BULK PLANTS				TERMINALS			
		COMPANY OPERATED				COMPANY OPERATED		
MAJOR OIL COMPANIES	Total	Salary operated	Commission operated	Jobber operated bulk plants	Total	Salary operated	Commission operated	Jobber operated terminals
Amoco Oil Co.	16	16	0	2,408	84	84	0	2
Atlantic Richfield	0	0	0	NA	45	45	0	NA
Chevron USA	93	—	93	666	100	100	0	26
Exxon Co., USA	3	0	3	NA	79	79	0	NA
Gulf Oil Co., USA	3	3	0	—	85	85	0	—
Mobil Oil Corp.	327(F)	98	229	1,857	98	98	0	—
Shell Oil Co.	88	88	0	900	24	—	—	0
Texaco, Inc.	1,495	0	5	1,490	85	85	—	NA
SEMI-MAJOR OIL COMPANIES								
Ashland Petroleum Co.	144	6	138	27	39	39	0	0
Cities Service Co.	0	0	0	—	32	32	0	20
Conoco, Inc.	0	0	0	NA	62	NA	NA	NA
Diamond Shamrock Corp.	0	0	0	NA	12	12	0	0
Getty Refining & Marketing Co.	—	—	—	—	33(G)	30	3	—
Kerr-McGee Refining Corp.	1	1	0	50	3	3	0	1
Marathon Oil Co.	1	1	0	3	48	48	0	0
Murphy Oil Co.	0	0	0	—	22	22(J)	0	0
Phillips Petroleum Co.	7	5	2	1,900	31	31	0	4
Standard Oil Co. (Ohio) (xxx)	NA	NA	NA	NA	NA	NA	NA	NA
Sun Co. Inc.	NA	NA	NA	—	40	NA	NA	—
Tenneco Oil Co. (xxx)	0	0	0	0	11	11	—	0
Union Oil Co. of Calif.	198	27	171	524	57	55	2	1
INDEPENDENT OIL COMPANIES AND SELECTED OIL JOBBERS								
Ada Resources	4	2	2	19	0	0	0	0
Agway Petroleum Corp. (xxx)	129	129	—	28	12	12	—	0
American Petrofina	0	0	0	378	11(G)	11	0	0
Amos Post, Inc.	4	4	—	2	—	—	—	—
Arkla Chemical Corp.	3	3	0	2	0	0	0	0
Armour Oil Co.	—	—	—	—	—	—	—	—
Asamera Oil Inc., (U.S.)	0	0	0	0	0	0	0	—
Atlas Oil Co. of Utica, Inc. (xxx)	0	—	—	—	1	—(Q)	—	0
The Augsbury Corp.	8	5	3	3	7	7	0	0
Automatic Comfort Corp.	2	2	0	0	2	2	0	0
Bagwell Oil Co.	1	1	0	—	1	1	0	—
E. M. Bailey Distributing Co.	3	0	3	—	1	1	0	—
Beacon Oil Co.	0	0	0	17	1	1	0	0
Best Oil Inc.	0	0	0	—	0	0	0	—
Bray Terminals Inc. (xxx)	2	2	0	5	2	2	0	—
Brennan Petroleum	0	0	0	0	0	0	0	0
Browning Oil Co.	1	1	0	—	0	0	0	—
By-Lo Oil Co. (xxx)	1	—	—	0	0	0	0	0
Campbell Oil Co.	3	3	0	2	0	0	0	0
Caribou Four Corners (xxx)	—	—	—	—	—	—	—	—
Cel Oil Products Corp.	1	1	0	—	0	0	0	—
Cenex	40	40	0	860	7	7	0	0
Certified Oil Co.	6	6	0	0	1	1	0	0
Chamberlain Petroleum Co. (xxx)	0	0	0	NA	6	6	—	NA
Charter Management Inc.	0	0	0	—	0	0	0	—
Charter Oil Co.	0	0	0	0	0	0	0	0
Cheker Oil Co.	0	0	0	0	—	—	—	0
Citadel Corp. (xxx)	0	—	—	—	0	—	—	—
Coen Oil Co.	1	1	0	0	0	0	0	—
Colonial Oil Industries, Inc.	2	2	0	—	2	2	0	—
Como Oil Co. (xxx)	1	—	—	—	0	—	—	—
Conna Corp.	0	0	0	0	0	0	0	—
Consumers Gasoline Stations	0	0	0	—	0	0	0	—
Consumers Oil Corp.	—	—	—	—	—	—	—	—
Consumers Petroleum Co.	—	—	—	—	—	—	—	—
Cook & Cooley, Inc.	0	0	0	—	1	1	0	—
Crown Central Petroleum Co.	—	—	—	—	—	—	—	—
Crystal Flash Petroleum	5	5	0	—	0	0	0	—
Crystal USA Oil Co.	—	—	—	—	—	—	—	—
C.S.C. Oil Corp.	0	0	0	—	0	0	0	—
K. E. David, Ltd.	3	3	0	—	—	—	—	—
Dead River Co. (xxx)	17	17	—	NA	1	1	—	NA
DeBlois Oil Co. (xxx)	4	4	0	0	0	0	0	0
Delta Marketing Co.	0	0	0	—	0	0	0	—
Derby Refining Co.	0	0	0	0	0	0	0	—
Diamond Shamrock Corp. (formerly Sigmor)	0	0	0	NA	12	12	0	0
Dixie Oil Co. (xxx)	—	—	—	—	—	—	—	—
Dominion Oil Co.	2	2	0	—	0	0	0	—
Drake's Refinery Stations, Inc.	0	0	0	—	0	0	0	—
East Coast Oil Corp.	0	0	0	0	0	0	0	0
Elm City Filling Stations, Inc. (xxx)	1	1	—	0	1	1	—	0
Englefield Oil Co.	—	—	—	—	—	—	—	—

(K) May not fit the 50% category but are identified as service stations.

(L) Other; 7,056 (non-lessee dealer, ship-shore/PX, jobber served nondealer.)

(M) Includes American Petrofina Marketing, Porto Fina Oil Co., and Finaserve, Inc.

(N) Includes Omega Oil Co.

(O) Includes Gasamat Oil Corp.

(P) Includes Prestige Stations, Inc.

(Q) Company operated.

(R) Includes Steiner Oil Co.

(S) Direct supplied stations only. Data not available for jobber supplied.

(T) Includes Gas-Up, Inc.

Product Distribution (cont'd.)

			BRANDED SERVICE STATIONS					
INDEPENDENT OIL COMPANIES AND SELECTED OIL JOBBERS	TOTAL BRANDED RETAIL OUTLETS†	TOTAL NUMBER OF STATES WHERE GASOLINE BRAND IS MARKETED†	Total true branded service stations	Supplied directly	Supplied through jobbers and commission agents	Lessee/ dealer operated	Salary operated	Commission operated
Farm Stores, Inc. (xxx)	60	1	—	—	—	—	—	—
Farmland Industries, Inc. (xxx)	930	11	930	—	—	—	—	—
FCX, Inc.	98	2	0	—	—	—	—	—
Fireline Petroleum	450	10	NA	NA	NA	NA	NA	NA
Fisca Oil Co., Inc.	103	22	104	104	0	0	104	0
Flying J, Inc. (xxx)	86	9	68	71	—	—	63	8
Don Foster Oil Co.	41	1	13	13	—	13	—	—
Franks Oil Co.	92	3	—	—	—	—	—	—
Gas-N-Go, Inc.	1	1	0	0	0	0	0	0
Gasco Gasoline	120	1	120	103	17	16	86	18
Gem Petroleum—Stop & Go	284(e)	2	284	236	48	0	284	0
General Oil Co.	51	2	51	51	0	—	—	—
Giant Industries, Inc.	18	2	18	18	0	0	18	0
Golden Gate Petroleum Co.	3(f)	1	3	3	0	0	3	0
Golden Imperial, Inc.	45	1	45	45	0	0	45	0
Golub Corp.	14	2	14	14	0	0	14	0
Gresham Petroleum Co.	16	1	6	6	0	2	4	0
Growmark, Inc.	260	3	160	0	160	80	80	0
Gull Industries	103	2	103	103	0	0	5	98
Harrell Petroleum Co. (xxx)	27	1	16	—	—	9	6	1
Harris Enterprises, Inc.	NA	2	—	—	—	—	—	—
Heathwood Oil Co.								
Higgins Oil Co., Inc. (g)								
Highland Petroleum Inc.	NA	6	—	—	—	—	—	—
Highway Oil, Inc.	218(h)	25	218	174	44	0	218	0
Angus J. Hines, Inc.	51	1	4	—	—	—	—	—
Hi-Quality Lo-Cost Svc. Stations, Inc. (Bought by Taylor Petroleum, Amarillo, Tx.)								
Barney Holland Oil Co.	58	1	42	37	5	41	1	0
Hop-In Food Stores, Inc.	150	3	130	79	51	0	130	0
Horkey Oil Co., Inc.	25(i)	1	22	0	22	10	12	0
Horn Distributing Co.	22	1	22	0	22	19	0	3
Hudson Oil Co.	265	NA	NA	NA	NA	NA	NA	NA
Hughes Oil Co.	120	1	50	50	0	48	2	0
Hull Oil Co.	22	2	22	22	0	4	12	6
Husky Oil Co. (xxx)	562	17	562	45(j)	55(j)	562	0	0
J & L Oil, Inc.	81	5	—	—	—	—	—	—
J. S. & J. Service, Inc.	19(k)	2	19	19	0	0	19	0
Johnson Products (xxx)	95	6	65	—	—	—	65	—
Kellet Oil Co.	20	3	17	75(j)	—	16	4	0
Kent Oil Co.	20	1	0	20	0	7	11	2
Key Energy Enterprises, Inc.	100	3	100	100	—	—	10	90
Kimber-Allen Petroleum Corp.	180(l)	1	180	162	18	150	30	0
Kimbro Oil Co. (xxx)	40	1	40	40	0	38	2	0
Kingston Oil Supply Corp.	13	1	13	13	0	13	0	0
Krause Gentle Oil Corp. (xxx)	52	1	52	52	—	8	44	—
Kwik Shop, Inc.	100	3	100	98	2	0	82	18
Lake Shore Oil Co. (xxx)	30	1	30	30	—	30	—	—
Land 'O Lakes	393	6	254	251	3	250	4	0
Lido Co. of New England	97(n)	3	97	97	0	35	62	0
Little Oil Co.	43	1	12	0	12	12	0	0
Lokey Oil Co.	34	1	34	34	0	34	0	0
Main Bros. Oil Co., Inc. (xxx)	30	1	10	10	—	10	—	—
Malco Products, Inc. (xxx)	73	3	73	47	26	59	11	3
Marshall Oil Co. (xxx)	50	1	50	17	—	18	7	8
Martin Oil Marketing Ltd.	132(o)	11	132	132	0	1	131	0
McDowell Oil Service, Inc.	28	1	3	3	0	3	—	—
Meenan Oil Co., Inc. (xxx)	1(p)	1	1	1	—	—	1	—
Merit Oil Corp.	NA	11	—	—	—	—	—	—
Merritt Truax, Inc.	49	1	49	49	0	37	6	6
Mico Oil Co., Inc.	28	15	28	28	0	0	28	0
Mid-Missouri Oil Co.	7	1	3	3	0	1	2	0
Mid-States Petroleum, Inc.	72	3	—	—	—	—	—	—
Miller & Holmes, Inc.	NA	NA	NA	NA	NA	NA	NA	NA
Miller Oil Co. (Norfolk)	16	1	5	3	—	2	—	—
Miller Oil Co. (Toledo)	4	1	4	4	0	3	1	0
Monarch Oil & Supply, Inc. (xxx)	25	1	25	25	—	24	1	—
Munford, Inc.	485(r)	13	0	0	0	0	0	0
Musket Corp.	120	9	120	120	0	0	120	0
National Convenience Stores, Inc. (xxx)	131	39	0	—	—	—	—	—
National Oil & Gas, Inc.	60	2	57	52	5	46	1	10
Neal, Inc.	44	1	2	2	0	2	0	0
Newell Oil Co., Inc.	14	1	14	14	0	11	2	1
R. B. Newman Fuel Corp.	14	1	0	0	0	0	0	0
Orleans Oil Co.	22	1	7	7	0	7	0	0
Osceola Refining Co.	13	1	13	12	1	11	2	0
Pacer Oil Co.	15	2	15	15	0	3	12	0
Parker Oil Co., Inc.	255	2	10	10	0	10	0	0

(U) Includes Charter Marketing Co.
(V) Includes Cheker Imperial Oklahoma.
(W) Includes Colonial Interstate, Interstate stations.
(X) They are a Phillips jobber.

(Y) Includes Scot Oil.
(Z) Includes Michigan Crystal Flash.
(a) Includes Convenient Gasoline and Petco Oil Co.
(b) Includes Yates Bowles.

How Oil Companies Handle

(. . . continued) BRANDED SERVICE STATIONS			BRANDED JOBBERS				
				NUMBER SELLING . . .			
100% full service	100% self service	Service and self service	Total	Gasoline only	Fuel oil only	Gasoline/ fuel oil	INDEPENDENT OIL COMPANIES AND SELECTED OIL JOBBERS
—	—	—	—	—	—	—	**Farm Stores, inc. (xxx)**
—	—	—	930	—	—	—	**Farmland Industries, Inc. (xxx)**
—	—	—	NA	NA	NA	NA	**FCX, Inc.**
NA	NA	NA	NA	NA	NA	NA	Fireline Petroleum
57	46	1	0	0	0	0	Fisca Oil Co., Inc.
3	65	3	0	—	—	—	Flying J, Inc. (xxx)
27	13	1	32	7	0	7	**Don Foster Oil Co.**
—	—	—	—	—	—	—	**Franks Oil Co.**
0	0	0	0	0	0	0	**Gas-N-Go, Inc.**
7	106	7	3	3	0	0	Gasco Gasoline
0	284	0	7	0	0	7	Gem Petroleum—Stop & Go
0	45	6	—	—	—	—	General Oil Co.
0	18	0	—	—	—	—	**Giant Industries, Inc.**
0	3	0	1	0	0	1	**Golden Gate Petroleum Co.**
6	13	26	0	0	0	0	**Golden Imperial, Inc.**
7	7	0	—	—	—	—	Golub Corp.
2	3	1	NA	NA	NA	NA	Gresham Petroleum Co.
130	0	30	112	0	0	112	Growmark, Inc.
28	75	0	0	0	0	0	**Gull Industries**
10	4	2	—	—	—	—	**Harrell Petroleum Co. (xxx)**
—	—	—	0	—	—	—	**Harris Enterprises Inc.**
							Heathwood Oil Co.
							Higgins Oil Co., Inc. (G)
—	—	—	—	—	—	—	Highland Petroleum Inc.
125	44	50	0	0	0	0	**Highway Oil, Inc.**
—	—	—	—	—	—	—	**Angus J. Hines, Inc.**
							Hi-Quality Lo-Cost Svc. Stations, Inc. (Bought by Taylor Petroleum, Amarillo, Tx.)
29	4	9	1	0	0	1	Barney Holland Oil Co.
0	130	0	0	0	0	0	Hop-In Food Stores, Inc.
0	13	12	1	1	0	0	Horkey Oil Co., Inc.
0	2	20	0	0	0	0	**Horn Distributing Co.**
NA	NA	NA	NA	NA	NA	NA	**Hudson Oil Co.**
4	2	44	0	0	0	0	**Hughes Oil Co.**
2	20	0	0	0	0	0	Hull Oil Co.
227	285	50(E)	140	—	—	140	Huskey Oil Corp. (xxx)
—	—	—	0	—	—	—	J & L Oil, Inc.
0	19	0	0	0	0	0	**J. S. & J. Service, Inc.**
35	—	30	0	—	—	—	**Johnson Products (xxx)**
3	4	10	1	0	0	1	**Kellet Oil Co.**
0	19	1	—	—	—	—	Kent Oil Co.
—	—	100	140	0	0	140	Key Energy Enterprises, Inc.
180	0	0	1	1	0	0	Kimber-Allen Petroleum Corp.
—	2	38	1	—	—	—	**Kimbro Oil Co. (xxx)**
12	1	0	—	—	—	—	**Kingston Oil Supply Corp.**
—	—	52	0	—	—	—	**Krause Gentle Oil Corp. (xxx)**
0	100	0	0	0	0	0	Kwik Shop, Inc.
80(j)	—	20(j)	NA(m)	—	—	—	Lake Shore Oil Co. (xxx)
132	42	80	312	27	0	285	Land 'O Lakes
94	3	0	1	—	—	—	**Lido Co. of New England**
6	4	2	0	0	0	0	**Little Oil Co.**
0	0	34	—	—	—	—	**Lokey Oil Co.**
10	—	—	0	—	—	—	Main Bros. Oil Co., Inc. (xxx)
0	73	—	7	7	0	—	Malco Products Inc. (xxx)
—	—	50	—	—	—	—	Marshall Oil Co. (xxx)
2	130	0	—	—	—	—	**Martin Oil Marketing Ltd.**
3	0	—	—	—	—	—	**McDowell Oil Service, Inc.**
1	—	—	0	—	—	—	**Meenan Oil Co., Inc. (xxx)**
—	—	—	—	—	—	—	Merit Oil Corp.
49	—	—	3	0	0	3	Merritt Truax, Inc.
26	2	0	0	0	0	0	Mico Oil Co., Inc.
0	2	1	0	0	0	0	**Mid-Missouri Oil Co.**
—	—	—	—	—	—	—	**Mid-States Petroleum, Inc.**
NA	NA	NA	NA	NA	NA	NA	**Miller & Holmes, Inc.**
0	0	5	0	0	0	0	Miller Oil Co. (Norfolk)
0	3	1	0	0	0	0	Miller Oil Co. (Toledo)
23	1	1	1	—	1	—	Monarch Oil & Supply, Inc. (xxx)
0	0	0	0	0	0	0	**Munford, Inc.**
0	120	0	0	0	0	0	**Musket Corp.**
—	—	—	1	1	—	—	**National Convenience Stores, Inc. (xxx)**
7	0	50	0	0	0	0	National Oil & Gas, Inc.
2	0	0	—	—	—	—	Neal, Inc.
4	6	4	1	—	—	—	Newell Oil Co., Inc.
0	0	0	0	0	0	0	**R. B. Newman Fuel Corp.**
7	0	0	1	1	0	0	**Orleans Oil Co.**
7	6	0	0	0	0	0	**Osceola Refining Co.**
3	12	0	—	—	—	—	Pacer Oil Co.
6	0	4	5	0	0	5	Parker Oil Co., Inc.

(c) Includes Alert Division.
(d) Most agents pull only propane.
(e) Includes Gem Petroleum and Payless Oil.
(f) Includes Bay Area Petroleum and Holdener Petroleum.

(g) Private brand.
(h) Includes Hi-Lo Oil Co. and Workingman's Friend Oil, Inc.
(i) Includes Petrotex Marketing.
(j) Percent.

Product Distribution (cont'd.)

COMMISSION AGENTS				BULK PLANTS				TERMINALS			
	NUMBER SELLING . . .				COMPANY OPERATED				COMPANY OPERATED		
Total	Gasoline only	Fuel oil only	Gasoline/ fuel oil	Total	Salary operated	Commission operated	Jobber operated bulk plants	Total	Salary operated	Commission operated	Jobber operated terminals
—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
NA	NA	NA	NA	22	22	0	—	NA	NA	NA	—
NA	NA	NA	NA	NA	NA	NA	NA	—	1	—	—
0	0	0	0	0	0	0	0	0	0	0	0
26(d)	—	—	6	5	3	2	—	⅞	—	—	—
0	0	0	0	2	2	0	0	0	0	0	0
—	—	—	—	2	0	2	—	—	—	—	—
0	0	0	0	0	0	0	—	0	0	0	—
18	18	0	0	0	0	0	—	—	—	—	—
7	0	0	7	0	—	—	7	0	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	1	1	0	—
0	0	0	0	3	3	0	—	5	0	5	—
0	0	0	0	0	0	0	—	0	0	0	—
—	—	—	—	—	—	—	—	—	—	—	—
NA	NA	NA	NA	4	4	0	NA	0	0	0	0
0	0	0	0	—	—	—	285	3	3	0	0
0	0	0	0	0	0	0	—	0	0	0	0
0	—	—	—	0	—	—	—	0	—	—	—
0	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
0	0	0	0	0	0	0	0	0	0	0	0
—	—	—		6	6	0	—	—	—	—	—
0	0	0	0	1	1	0	1	0	0	0	0
0	0	0	0	0	0	0	—	0	0	0	—
—	—	—	—	1	1	0	—	—	—	—	—
0	0	0	0	1	1	0	—	0	0	0	—
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
0	0	0	0	2	2	0	—	0	0	0	—
0	0	0	0	1	1	0	—	0	0	0	—
0	0	0	0	2	0	2	3	1	1	0	0
0	—	—	—	—	—	—	—	—	—	—	—
0	0	0	0	0	0	0	—	0	0	0	—
0	—	—	—	0	—	—	—	0	—	—	—
0	0	0	0	3	3	0	1	0	0	0	0
—	—	—	—	0	0	0	—	0	0	0	—
50	0	0	50	4	4	0	0	0	0	0	—
0	0	0	0	0	0	0	—	0	0	0	—
0	—	—	—	1	0	0	1	0	—	—	0
—	—	—	—	2	2	0	2	5	5	0	—
0	—	—	—	1	—	—	0	0	—	—	0
0	0	0	0	0	0	0	—	0	0	0	—
0	—	—	—	0	—	—	0	0	—	—	0
—	—	—	—	5	5	0	410	0	0	0	—
0	—	—	—	5	5	0	—	0	0	0	—
0	0	0	0	6	6	0	—	1	1	0	0
—	—	—	—	1	—	—	—	—	—	—	—
0	—	—	—	7	7	—	—	1	1	—	—
0	—	—	—	1	1	—	—	1	1	—	—
17	17	—	—	0	—	—	0	0	—	—	—
—	—	—	—	0	0	0	—	3	3	0	—
—	—	—	—	1	—	—	—	—	—	—	—
—	—	—	—	10	10	—	0	22	22	—	0
—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	2	2	0	—	0	—	—	—
—	—	—	—	7	4	0	3	0	0	0	0
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
0	0	0	0	3	3	0	—	1	1	0	—
0	0	0	0	0	0	0	—	—	—	—	—
—	—	—	—	1	—	—	0	1	—	—	—
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	—	—	—	0	—	—	0	0	—	—	0
10	0	0	10	7	0	7	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	3	3	0	—	0	0	0	—
0	0	0	0	1	1	0	—	1	1	0	—
2	0	0	2	3	0	3	—	1	1	0	—
0	0	0	0	0	0	0	0	0	0	0	0
—	—	—	—	1	1	0	—	—	—	—	—
0	0	0	0	8	8	0	0	1	1	0	0

(k) Includes Terminal Stations.
(l) Includes Allen Oil Corp.
(m) They are jobbers.
(n) Includes Valley Oil Div., TM Oil Div., and McLoon Oil Div.

(o) Includes Martin Oil of Indiana and Martin's 4-Min. Auto Saloon, Inc.
(p) Majority of business not gasoline.
(q) Includes, Sello, Reelo, Hi-Val, Big-Bi and Lo-Lo.
(r) Majik Markets operates a total of 485 C-stores with gasoline.

How Oil Companies Handle

INDEPENDENT OIL COMPANIES AND SELECTED OIL JOBBERS	TOTAL BRANDED RETAIL OUTLETS†	TOTAL NUMBER OF STATES WHERE GASOLINE BRAND IS MARKETED†	BRANDED SERVICE STATIONS					
			Total true branded service stations	Supplied directly	Supplied through jobbers and commission agents	Lessee/dealer operated	Salary operated	Commission operated
Curtis Parker Oil Co.	36	1	21	19	—	21	0	0
Peavey Oil Co.	6	1	6	6	0	3	3	0
Pester Corp.	214(s)	10	214	214	0	0	214	0
Petroleum Products Corp.	6	1	—	—	—	—	—	—
Petroleum Sales & Service	30	1	30	30	0	30	0	0
Pettway Oil Co.	41	3	13	0	13	13	0	0
Phillips Fuel Co.	87	1	—	—	—	—	—	—
Piasa Motor Fuels, Inc.	15	2	15	15	0	12	3	0
Pilot Oil Corp. (xxx)	94	8	94	94	—	—	94	—
Port Oil, Inc.	55	2	55	55	0	0	55	0
Powerine Oil Co.	33	2	33	33	—	0	33	0
Power Test Corp.	460	5	460	460	0	326	134	0
Premium Petroleum Products, Inc. (xxx)	50	1	50	50	—	49	—	1
Pride of Texas Distributing Co., Inc. (xxx)	29	1	29	29	—	27	2	—
Pride Oil Co., Inc. (Miss.)	23	2	23	23	0	0	1	22
Pride Oil Co., Inc. (Tenn.)	15	1	15	15	—	—	15	—
Private Brand Services, Inc.	2	1	2	—	—	0	2	—
Publix Oil Co., Inc.	210(u)	6	45	45	0	15	0	30
W. H. Pugh Oil Co. (xxx)	17	1	17	13	4	9	8	—
Quaker State Oil Refining Corp.	263	4	250	38	212	250	0	0
Quality Oil Co. (xxx)	164	2	161	161	—	96	14	17
Quarles Petroleum, Inc.	307	1	17	17	0	17	0	0
Racetrac Petroleum, Inc.	140	13	140	140	0	40	100	0
Red Head Oil Co. (xxx)	27	1	2	27	—	3	6	18
Reinhardt Oil Corp.	35(v)	1	7	7	0	5	2	0
Reynolds Industries	14(w)	2	14	14	0	9	5	0
Rock Island Refining Corp.	254(x)	3	254	254	0	0	254	0
Rocket Oil Co.	1	1	1	1	0	1	0	0
Romaco, Inc.	312(y)	5	268	268	0	33	137	98
Ryan DeWitt Corp.	23(z)	1	6	6	0	0	6	0
Santee Oil Co., Inc.	59	1	15	15	0	12	3	0
Save-X, USA, Inc.	42(AA)	2	42	42	0	0	12	30
Self-Service Oil Co.	20	NA	—	—	—	—	—	—
Shelby Petroleum Corp.	20	2	20	20	0	0	20	0
Shotmeyer Bros. Petroleum Corp.	65	1	63	63	0	32	0	31
Shotmeyer Oil Co. (xxx)	41	3	41	41	—	3	—	38
The SICO Co.	143	2	—	—	—	—	—	—
Sigmor Corp.								
Simmons Oil Corp.	0	—	—	—	—	—	—	—
Simon Oil Co., Inc.	90	1	90	90	0	81	9	0
Smith-Shafer Oil Co.	9	3	9	9	0	0	7	2
M. Spiegel & Sons Oil Corp.	25(BB)	1	25	25	0	25	0	0
Standard Cycle & Auto Supply	52	1	—	—	—	—	—	—
Star Oil Co.	49	1	49	32	17	21	2	—
Star Service & Petroleum Co.	183	19	183	183	0	0	183	0
Steuart Petroleum Co.	6	1	6	6	—	—	—	—
Suburban Propane Gas Co.	145	5	145	145	0	7	60	5
Sunny Service Stations, Inc.	10	1	10	10	0	2	8	0
Sunshine Jr. Stores, Inc. (xxx)	307	5.	307	57	250	—	—	—
Tanner Oil Co.	97(CC)	3	86	86	0	1	84	1
Taylor Oil Co.	57	2	57	57	0	0	0	57
Texas Star, Inc.	8(DD)	1	0	0	0	0	0	0
Thornhill Oil Co., Inc.	20	1	10	10	0	5	5	0
Thornton Oil Corp.	87	15	87	—	—	0	87	0
Time Oil Co.	213	5	—	—	—	—	—	—
Tooley Oil Co.	11	1	10	10	0	1	9	0
Total Petroleum, Inc.	1,797	21	1,797	450	1,347	1,347	450	0
Transit Oil Co.	14	2	—	—	—	—	—	—
Travelers Petroleum, Inc.	65	3	5	5	0	0	5	0
Trenton Oil Co.	50	1	50	50	0	50	0	0
Truax, Inc.	75	2	75	75	0	34	38	3
United Refining Co.	363(EE)	3	363	363	0	49	314	0
Wake Up Oil Co., Inc.	43	1	43	43	0	1	42	0
Warelubco, Inc.	91	6	91	91	0	1	90	0
Webaco Oil Co.	26	2	—	—	—	—	—	—
Webster Oil Co.	18	1	18	18	0	10	8	0
Wesson, Inc.	15	1	15	15	0	3	9	3
Western Marketing, Inc.	53(FF)	2	53	50	0	2	47	1
Whale Oil Corp.	—	—	—	—	—	—	—	—
Whale Oil Corp. of New Jersey	—	—	—	—	—	—	—	—
Wickland Oil Co.	85(GG)	3	85	85	0	85	0	0
A. T. Williams Oil Co.	65	2	—	—	—	—	—	—
J. H. Williams Oil Co., Inc.	84	1	73	68	5	68	4	1
Wilson of Wallingford, Inc.	0	0	0	0	0	0	0	0
Zephyr, Inc.	65	2	65	45	20	15	50	0
World Oil Co.	93	1	93	93	0	0	93	0
Young Oil, Inc.	9	1	3	3	0	—	—	—

(s) Includes Pester Marketing Northern and Pester Marketing Southern.
(t) Includes Aero Oil Co.
(u) Includes Dalton Oil, Scotland and Hay Oil.
(v) Includes Corner Food Stores, Inc.
(w) Includes Port Oil Co.
(x) Includes Tulsa Oil Corp., Supre Fuels Co., Wake Up Oil Co., United Oil Service, Colonial Imperial, and Colonial Oil Co.
(y) Includes Thrifty Petroleum and Masail, Inc.

Product Distribution (cont'd.)

			BRANDED JOBBERS				COMMISSION AGENTS			
				NUMBER SELLING . . .				NUMBER SELLING . . .		
100% full service	100% self service	Service and self service	Total	Gasoline only	Fuel Oil only	Gasoline/ fuel oil	Total	Gasoline only	Fuel oil only	Gasoline/ fuel oil
13	3	5	1	0	0	1	2	0	0	2
6	0	0	1	0	0	1	0	0	0	0
0	212	2	0	0	0	0	0	0	0	0
—	—	—	—	—	—	—	—	—	—	—
12	2	16	0	0	0	0	1	1	0	0
2	0	11	NA	NA	NA	NA	1	—	—	—
—	—	—	—	—	—	—	—	—	—	—
0	0	15	NA	NA	NA	NA	NA	NA	NA	NA
4	90	—	0	—	—	—	—	—	—	—
6	40	10	0	0	0	0	0	0	0	0
0	33	0	0	0	0	0	0	0	0	0
426	20	12	0	0	0	0	0	0	0	0
50	—	—	0	—	—	—	0	—	—	—
6	12	11	0	—	—	—	0	—	—	—
0	22	1	0	0	0	0	0	0	0	0
8	8	7	0	0	0	0	0	0	0	0
0	2	0	0	0	0	0	0	0	0	0
10	0	35	9	1	2	6	—	—	—	—
11	6	—	—	—	—	—	2	—	—	2
239	11	0	43	0	0	43	0	0	0	0
23	32	109	0	—	—	—	0	—	—	—
0	0	17	—	—	—	—	—	—	—	—
38	102	0	0	0	0	0	0	0	0	0
4	23	0	2	2	—	—	0	—	—	—
7	0	0	0	0	0	0	0	0	0	0
13	1	0	0	0	0	0	0	0	0	0
92	22	140	0	0	0	0	0	0	0	0
0	0	1	0	0	0	0	0	0	0	0
8	260	0	0	0	0	0	0	0	0	0
0	0	6	2	0	0	2	2	0	0	2
2	3	10	0	0	0	0	0	0	0	0
6	34	2	0	0	0	0	0	0	0	0
—	20	—	—	—	—	—	—	—	—	—
20	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0
41	—	—	0	—	0	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
79	11	0	0	0	0	0	0	0	0	0
1	6	2	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0
—	—	—	—	—	—	—	—	—	—	—
30	5	14	2	0	0	2	0	0	0	0
42	71	70	0	0	0	0	0	0	0	0
—	—	—	0	0	0	0	0	0	0	0
1	143	1	73	73	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0
—	307	—	9	—	—	—	29	—	—	29
8	7	71	0	0	0	0	0	0	0	0
0	57	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
1	2	2	0	0	0	0	5	4	0	1
87	0	0	NA	NA	NA	NA	NA	NA	NA	NA
—	—	—	—	—	—	—	—	—	—	—
0	10	0	0	0	0	0	0	0	0	0
47	650	1,100	414	0	0	414	0	0	0	0
—	—	—	—	—	—	—	—	—	—	—
0	5	0	—	—	—	—	—	—	—	—
50	0	0	0	0	0	0	0	0	0	0
72	3	0	—	—	—	—	—	—	—	—
313	—	—	0	0	0	0	7	—	—	—
13	0	29	0	0	0	0	0	0	0	0
2	7	82	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
0	3	15	0	0	0	0	0	0	0	0
6	8	1	0	0	0	0	0	0	0	0
2	49	2	3	0	0	3	0	0	0	0
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
1	84	0	0	0	0	0	3	3	0	0
0	60	5	—	—	—	—	—	—	—	—
39	2	32	0	0	0	0	1	0	0	1
0	0	0	0	0	0	0	0	0	0	0
0	35	30	5	0	0	5	3	0	0	3
0	93	0	NA	All	0	0	0	0	0	0
—	—	—	0	0	0	0	0	0	0	0

(z) Includes Albion Oil Co. and L.W. Stroup Corp.
(AA) Includes Serve-N-Save, Inc.
(BB) Includes SOS Oil Corp.
(CC) Includes Rich of Ohio, Rich of West Virginia, Tanco, Inc., and Rich Oil Corp.
(DD) Includes Texas Star Oil Co.-Mini-Mart.
(EE) Includes United Refining Co. of Pennsylvania.
(FF) Includes Wes T Go and Westico Truck Stops.
(GG) Includes Regal Stations, Inc.

Product Distribution (cont'd.)

BULK PLANTS				TERMINALS				
	COMPANY OPERATED				COMPANY OPERATED			
Total	Salary operated	Commission operated	Jobber operated bulk plants	Total	Salary operated	Commission operated	Jobber operated terminals	INDEPENDENT OIL COMPANIES AND SELECTED OIL JOBBERS
3	1	2	—	—	—	—	—	**Curtis Parker Oil Co.**
2	2	0	—	2	1	1	0	**Peavey Oil Co.**
0	0	0	0	0	0	0	0	**Pester Corp.**
—	—	—	—	4	4	—	—	Petroleum Products Corp.
0	0	0	0	0	0	0	0	Petroleum Sales & Service
1	1	0	NA	NA	NA	NA	NA	Pettway Oil Co.
2	2	0	—	—	—	—	—	**Phillips Fuel Co.**
3	1	2	—	0	0	0	0	**Piasa Motor Fuels, Inc.**
0	—	—	—	—	—	—	—	**Pilot Oil Corp. (xxx)**
0	0	0	—	0	0	0	—	Port Oil, Inc.
0	0	0	0	2	2	0	0	Powerine Oil Co.
2	2	0	—	0	0	0	—	Power Test Corp.
0	—	—	—	0	—	—	—	**Premium Petroleum Products, Inc. (xxx)**
0	—	—	—	0	—	—	—	**Pride of Texas Distributing Co., Inc. (xxx)**
0	0	0	0	0	0	0	0	**Pride Oil Co., Inc. (Miss.)**
0	0	0	0	0	0	0	0	Pride Oil Co., Inc. (Tenn.)
0	0	0	0	0	0	0	0	Private Brand Services, Inc.
7	7	0	—	3	3	—	—	Publix Oil Co., Inc.
2	—	2	—	1	1	—	—	**W. H. Pugh Oil Co. (xxx)**
1	1	0	7	3	3	0	0	**Quaker State Oil Refining Corp.**
7	7	—	0	0	—	—	0	**Quality Oil Corp.**
8	8	0	—	2	2	0	—	Quarles Petroleum, Inc.
0	0	0	0	0	0	0	0	Racetrac Petroleum, Inc.
0	—	—	0	0	—	—	0	Red Head Oil Co. (xxx)
4	4	0	0	0	0	0	—	**Reinhardt Oil Corp.**
0	0	0	0	0	0	0	0	**Reynolds Industries**
0	0	0	0	1	1	0	0	**Rock Island Refining Corp.**
0	0	0	0	0	0	0	0	Rocket Oil Co.
4	4	0	NA	17	17	0	—	Romaco, Inc.
6	6	0	—	0	0	0	—	Ryan DeWitt Corp.
4	4	0	0	0	0	0	0	**Santee Oil Co., Inc.**
0	0	0	0	0	0	0	0	**Save-X, USA, Inc.**
—	—	—	—	—	—	—	—	**Self-Service Oil Co.**
1	1	0	—	0	0	0	—	Shelby Petroleum Corp.
1	1	0	0	0	0	0	0	Shotmeyer Bros. Petroleum Corp.
0	—	—	0	4	4	—	0	Shotmeyer Oil Co. (xxx)
9	9	0	3	1	1	0	0	**The SICO Co.**
—	—	—	—	2	2	0	0	**Simmons Oil Corp.**
0	0	0	—	0	0	0	—	Simon Oil Co., Inc.
1	1	0	0	0	0	0	0	Smith-Snafer Oil Co.
3	3	0	0	0	0	0	0	M. Spiegel & Sons Oil Corp.
—	—	—	—	—	—	—	—	**Standard Cycle & Auto Supply**
1	1	0	2	0	0	0	—	**Star Oil Co.**
0	0	0	0	0	0	0	0	**Star Service & Petroleum Co.**
1	1	0	—	4	4	0	—	Steuart Petroleum Co.
0	NA	NA	0	2	2	0	—	Suburban Propane Gas Co.
0	0	0	0	0	0	0	0	Sunny Service Stations, Inc.
0	—	—	0	0	—	—	—	**Sunshine Jr. Stores, Inc. (xxx)**
0	0	0	0	1	1	0	0	**Tanner Oil Co.**
0	0	0	0	2	2	0	0	**Taylor Oil Co.**
0	0	0	0	0	0	0	0	Texas Star, Inc.
1	1	0	0	0	0	0	0	Thornhill Oil Co., Inc.
0	0	0	—	0	0	0	—	Thornton Oil Corp.
—	—	—	—	8	8	0	—	**Time Oil Co.**
0	0	0	0	0	0	0	0	**Tooley Oil Co.**
0	0	0	0	8	8	0	NA	**Total Petroleum, Inc.**
0	0	0	—	0	0	0	—	Transit Oil Co.
—	—	—	—	—	—	—	—	Travelers Petroleum, Inc.
0	0	0	0	0	0	0	0	Trenton Oil Co.
8	7	—	1	—	—	—	—	**Truax, Inc.**
7	0	7	—	3	—	—	0	**United Refining Co.**
0	0	0	—	0	0	0	0	**Wake Up Oil Co., Inc.**
1	1	0	—	—	—	—	—	Warelubco, Inc.
0	—	—	—	—	—	—	—	Webaco Oil Co.
2	2	0	—	0	0	0	—	Webster Oil Co.
2	2	0	0	0	0	0	—	**Wesson, Inc.**
2	1	1	0	0	0	0	—	**Western Marketing, Inc.**
8	—	—	8	—	—	—	—	**Whale Oil. Corp.**
3	—	—	3	—	—	—	—	Whale Oil Corp. of New Jersey
0	0	0	0	7	7	0	0	Wickland Oil Co.
4	4	0	—	—	—	—	—	A. T. Williams Oil Co.
4	3	1	0	0	0	0	0	**J. H. Williams Oil Co., Inc.**
2	2	0	0	0	0	0	0	**Wilson of Wallingford, Inc.**
3	0	3	—	2	2	0	0	**Zephyr, Inc.**
—	—	—	—	—	—	—	—	World Oil Co.
0	0	0	0	0	0	0	0	Young Oil, Inc.

Source: NPN questionnaires, Spring, 1983.

Branded Retail Outlets

Company	TOTAL BRANDED RETAIL OUTLETS*	TOTAL NUMBER OF STATES WHERE GASOLINE BRAND IS MARKETED†	New England						Middle Atlantic		
			Maine	N.H.	Vt.	Mass.	R.I.	Conn.	N.Y.	N.J.	Pa.
Agway Petroleum Corp. (xxx)	283	9	8	8	10	25	1	3	132	23	73
American Petrofina, Inc.	4,201	20	—	—	—	—	—	—	—	—	—
Amoco Oil Co.	17,765	44	1	1	—	290	20	191	667	481	838
Amos Post	33	1	—	—	—	—	—	—	33	—	—
Armour Oil Co.	75	7	—	—	—	—	—	—	—	—	—
Ashland Petroleum Co.	194	8	—	—	—	—	—	—	9	—	4
Atlantic Richfield Co.	5,260	26	—	15	34	231	72	172	403	209	1,445
Atlas Oil Co. of Utica (xxx)	7	1	—	—	—	—	—	—	7	—	—
The Augsbury Corp.	133	2	—	—	22	—	—	—	111	—	—
Automatic Comfort Corp.	53	1	—	—	—	—	—	53	—	—	—
Bagwell Oil Co.	18	2	—	—	—	—	—	—	—	—	—
Best Oil, Inc.	3	1	—	—	—	—	—	—	—	—	3
Bonded Oil Co. (xxx)	247	4	—	—	—	—	—	—	—	—	—
Bray Terminals, Inc. (xxx)	54	1	—	—	—	—	—	—	54	—	—
Browning Oil Co.	17	1	—	—	—	—	—	—	—	—	—
By-Lo Oil Co. (xxx)	15	1	—	—	—	—	—	—	—	—	—
Campbell Oil Co.	54	1	—	—	—	—	—	—	—	—	—
Cel Oil Products Corp.	16	1	—	—	—	—	—	—	—	—	—
Cenex	1,117	14	—	—	—	—	—	—	—	—	—
Certified Oil Co.	210	3	—	—	—	—	—	—	—	—	—
Charter Management, Inc.	10	2	—	—	—	—	—	—	—	—	—
Charter Oil Co.	320	6	—	—	—	—	—	—	—	—	—
Cheker Oil Co.	381	16	—	—	—	—	—	—	—	—	10
Chevron, U.S.A., Inc.	12,403	41	92	34	29	69	13	208	437	238	196
Citadel Corp. (xxx)	11	3	—	—	—	—	—	—	—	—	—
Cities Service Co.	4,727	32	114	168	67	256	19	78	271	348	110
Coen Oil Co.	200	1	—	—	—	—	—	—	—	—	—
Colonial Industries, Inc.	71	3	—	—	—	—	—	—	—	—	—
Como Oil Co. (xxx)	30	1	—	—	—	—	—	—	—	—	—
Conna Corp.	285	11	—	8	11	—	—	3	13	—	—
Conoco, Inc.	4,702	28	—	—	—	—	—	—	—	—	—
Consumers Gasoline Stations	34	2	—	—	—	—	—	—	—	—	—
Consumers Oil Corp.	16	2	—	—	—	—	—	—	—	14	2
Consumers Petroleum	20	1	—	—	—	—	—	20	—	—	—
Crown Central Petroleum Corp.	NA	8	—	—	—	—	—	—	(x)	(x)	(x)
Crystal Flash Petroleum Corp.	32	2	—	—	—	—	—	—	—	—	—
Crystal U.S.A. Oil Co.	116	9	—	—	—	—	—	—	—	—	—
C.S.C. Oil Corp.	22	2	—	—	—	—	—	—	—	—	—
K.E. David Ltd.	8	1	—	—	—	—	—	—	—	—	8
Dead River Co. (xxx)	135	2	122	13	—	—	—	—	—	—	—
DeBlois Oil Co. (xxx)	43	2	—	—	—	8	35	—	—	—	—
Delta Marketing Co.	337	12	—	—	—	—	—	—	—	—	—
Derby Refining Co.	520	12	—	—	—	—	—	—	—	—	—
Diamond Shamrock Corp.	1,647	24	—	—	—	—	—	—	4	—	2
Dixie Oil Co. (xxx)	97	3	—	—	—	—	—	—	—	—	—
Dominion Oil Co.	26	1	—	—	—	—	—	—	—	—	—
Drake's Refinery Stations, Inc.	12	1	—	—	—	—	—	—	—	—	—
East Coast Oil Corp.	32	1	—	—	—	—	—	—	—	—	—
Elm City Filling Stations, Inc. (xxx)	60	1	—	—	—	—	—	60	—	—	—
E.M. Bailey Dist. Co.	86	1	—	—	—	—	—	—	—	—	—
Englefield Oil Co.	77	2	—	—	—	—	—	—	—	—	—
Exxon Co., U.S.A.	20,119	41	307	99	105	342	48	198	935	854	1,148
Farm Stores, Inc. (xxx)	60	1	—	—	—	—	—	—	—	—	—
FCX, Inc.	98	2	—	—	—	—	—	—	—	—	—
Fireline Petroleum	450	10	28	27	—	114	41	53	58	24	4
Fisca Oil Co., Inc.	103	22	—	—	—	—	1	3	—	4	10
Don Foster Oil Co.	41	1	—	—	—	—	—	—	—	—	—
Gas-N-Go, Inc.	1	1	—	—	—	—	—	—	—	—	—
Gem Petroleum—Shop & Go	284	2	—	—	—	—	—	—	—	—	—
Getty Refining & Marketing Co.	4,494	28	99	79	71	253	68	166	551	470	205
Golden Imperial	45	1	—	—	—	—	—	—	—	—	—
Golub Corp.	14	2	—	—	—	1	—	—	13	—	—
Gresham Petroleum Co.	16	1	—	—	—	—	—	—	—	—	—
Growmark, Inc.	260	3	—	—	—	—	—	—	—	—	—
Gulf Oil Corp.	14,598	28	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)
Higgans Oil Co. (xxx)	22	1	—	—	—	—	—	—	—	—	—
Highland Petroleum	12	6	—	—	—	—	—	—	—	—	—
Highway Oil, Inc.	218	25	—	2	2	—	—	—	23	—	26
Angus J. Hines, Inc.	51	1	—	—	—	—	—	—	—	—	—
Hop-In Food Stores, Inc.	150	3	—	—	—	—	—	—	—	—	—
Hudson Oil Co.	265	NA	—	—	—	—	—	—	—	—	—
Hughes Oil Co.	120	1	—	—	—	—	—	—	—	—	—
Hull Oil Co.	22	2	—	—	—	—	—	—	—	—	—
Johnson Products (xxx)	95	6	45	20	5	10	5	—	10	—	—

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*Total branded retail outlets include garages, motels, C-stores, and service stations. By U.S. Census Bureau definition, only establishments generating 50% or more of their income from the sale of petroleum products and services are service stations.

†Total number of states where gasoline is branded includes the District of Columbia.

in the United States

South Atlantic									East North Central					East South Central			
Del.	Md.	D.C.	Va.	W.Va.	N.C.	S.C.	Ga.	Fla.	Ohio	Ind.	Ill.	Mich.	Wis.	Ky.	Tenn.	Ala	Miss.
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	151	221	612	551	—	—	1	—	—	1	227	126	37
34	392	50	647	—	1,183	523	829	778	504	783	1,353	1,117	636	16	824	830	380
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	3	—	—	—	—	—	1	—	—	—	—	—	—	—	—
—	—	—	3	25	—	—	—	—	53	2	2	—	—	96	—	—	—
58	125	4	96	30	2	—	—	—	34	28	244	24	5	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	1	—	17	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	13	—	—	—	—	165	38	—	—	31	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	17	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	15	—	—	—	—	—
—	—	—	—	—	—	—	—	—	54	—	—	—	—	—	—	—	—
—	—	—	—	—	—	16	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	164	—	—	—	—
—	—	—	—	13	—	—	—	—	192	—	—	—	—	5	—	—	—
—	—	—	—	—	—	—	9	1	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	2	55	—	—	—	—	—	—	—	1	63
—	—	—	—	—	—	—	4	44	8	67	134	49	8	9	3	2	5
23	50	1	21	97	59	117	1,169	1,174	4	7	—	—	—	1,173	126	1,132	661
—	2	8	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	55	1	194	9	315	63	179	602	42	164	238	103	235	33	129	244	98
—	—	—	—	—	—	—	—	—	200	—	—	—	—	—	—	—	—
—	—	—	—	—	9	31	31	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	30	—	—	—	—	—	—	—	—	—
—	—	—	—	—	15	—	—	14	—	27	29	—	—	144	19	—	—
—	—	—	—	—	—	—	—	1	—	42	102	22	134	20	—	15	50
—	—	—	—	—	—	—	—	—	—	—	—	—	—	6	28	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	(x)	—	(x)	—	(x)	(x)	(x)	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	16	—	16	—	—	—	—	—
—	—	—	—	—	—	—	2	25	—	—	—	—	—	1	3	56	5
—	—	—	—	—	—	—	—	—	13	—	—	—	—	9	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	1	10	10	—	12	—	—	—	44	132	29	18
—	—	—	—	—	—	—	—	—	—	—	31	—	—	4	2	—	—
—	—	—	13	—	2	4	2	5	—	—	—	—	—	1	5	—	—
—	—	—	—	—	—	—	65	30	—	—	—	—	—	—	—	2	—
—	—	—	26	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	12	—	—	—	—	—
—	—	—	32	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	86	—	—	—
—	—	—	—	8	—	—	—	—	69	—	—	—	—	—	—	—	—
76	517	61	1,113	562	1,999	1,039	703	569	157	—	—	—	—	173	986	433	259
—	—	—	—	—	—	—	—	60	—	—	—	—	—	—	—	—	—
—	—	—	—	—	84	14	—	—	—	—	—	—	—	—	—	—	—
4	—	—	—	—	—	—	—	97	—	—	—	—	—	—	—	—	—
—	5	—	13	—	—	—	4	—	6	1	5	9	2	1	—	1	—
—	—	—	—	—	—	—	—	—	—	—	—	41	—	—	—	—	—
—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	32	252	—	—	—	—	—	—	—	—	—
41	51	—	1	—	—	—	—	—	—	—	90	6	145	—	—	—	—
—	—	—	—	—	—	—	—	—	—	45	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	16
—	—	—	—	—	—	—	—	—	—	—	122	—	23	—	—	—	—
(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	—	—	(x)	—	(x)	(x)	(x)	(x)
—	—	—	22	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	—	—	—
—	5	—	—	5	—	—	2	30	35	8	1	3	—	7	9	2	2
—	—	—	51	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	76	—	49	—	—	—	—	—	—	—	—	—	25	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	120	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	20	—	—	—	—	—	—	—	2	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

(xxx) Latest data available. Company either did not respond to the 1983 questionnaire or did not answer all of the questions fully.
(x) Company markets in these states but refuses to disclose the number of outlets involved.
Source: NPN questionnaires and 1982 Factbook.

Branded Retail Outlets (cont'd.)

			New England						Middle Atlantic		
Company	TOTAL BRANDED RETAIL OUTLETS*	TOTAL NUMBER OF STATES WHERE GASOLINE BRAND IS MARKETED†	Maine	N.H.	Vt.	Mass.	R.I.	Conn.	N.Y.	N.J.	Pa.
J & L Oil Co.	81	5	—	—	—	—	—	—	—	—	—
Kellet Oil Co.	20	3	—	—	—	—	—	—	—	—	—
Kerr-McGee Refining Corp.	1,814	18	—	—	—	—	—	—	—	—	—
Key Energy Enterprises	100	3	—	—	—	—	—	—	—	—	—
Kimber-Allen Petroleum Corp.	180	1	—	—	—	—	—	—	—	180	—
Kingston Oil Supply Corp.	13	1	—	—	—	—	—	—	13	—	—
Lake Shore Oil Co. (xxx)	30	1	—	—	—	—	—	—	—	—	—
Land O Lakes	393	6	—	—	—	—	—	—	—	—	—
Lido Co. of New England	97	3	49	26	—	22	—	—	—	—	—
Little Oil Co.	43	1	—	—	—	—	—	—	—	—	—
Main Bros. Oil Co., Inc. (xxx)	30	1	—	—	—	—	—	—	30	—	—
Marathon Oil Co.	2,209	6	—	—	—	—	—	—	—	—	—
Marshall Oil Co.	50	1	—	—	—	—	—	—	—	—	—
Martin Oil Marketing, Ltd.	132	11	—	—	—	—	—	—	—	—	3
McDowell Oil Service, Inc.	28	1	—	—	—	—	—	—	—	—	28
Merit Oil Corp.	NA	11	—	(x)	—	(x)	(x)	(x)	(x)	(x)	(x)
Mico Oil Co., Inc.	28	15	—	—	—	—	—	—	—	1	—
Mid-States Petroleum, Inc.	72	3	—	—	—	—	—	—	—	—	—
Miller Enterprises, Inc. (xxx)	90	1	—	—	—	—	—	—	—	—	—
Miller Oil Co., Inc. (Norfolk)	16	1	—	—	—	—	—	—	—	—	—
Miller Oil Co. (Toledo)	4	1	—	—	—	—	—	—	—	—	—
Mobil Oil Corp.	16,216	44	275	167	200	678	99	513	2,048	472	1,162
Monarch Oil & Supply Co. (xxx)	25	1	—	—	—	—	—	—	—	—	—
Munford, Inc.	485	13	—	—	—	—	—	—	—	—	—
Murphy Oil Corp.	717	14	—	—	—	—	—	—	—	—	—
Musket Corp.	120	9	—	—	—	—	—	—	—	—	—
National Convenience Stores (xxx)	131	39	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)
National Oil & Gas, Inc.	60	2	—	—	—	—	—	—	—	—	—
R.B. Newman Fuel Corp.	14	1	—	—	—	—	—	—	14	—	—
Osceola Refining Co.	13	1	—	—	—	—	—	—	—	—	—
Parker Oil Co. Inc.	255	2	—	—	—	—	—	—	—	—	—
Pester Corp.	214	10	—	—	—	—	—	—	—	—	—
Petroleum Products Corp.	6	1	—	—	—	—	—	—	—	—	6
Petroleum Sales & Service	30	1	—	—	—	—	—	—	30	—	—
Pettway Oil Co.	42	2	—	—	—	—	—	—	—	—	—
Phillips Fuel Co.	87	1	—	—	—	—	—	—	—	87	—
Phillips Petroleum Co.	12,035	38	—	—	—	—	—	—	—	—	146
Piasa Motor Fuels, Inc.	15	2	—	—	—	—	—	—	—	—	—
Pilot Oil Corp. (xxx)	94	8	—	—	—	—	—	—	—	—	—
Port Oil, Inc.	55	2	—	—	—	—	—	—	—	—	—
Power Test Corp.	460	5	—	—	—	26	—	36	339	57	2
Premium Petroleum Products, Inc. (xxx)	50	1	—	—	—	—	—	—	50	—	—
Pride Oil Co., Inc. (Miss.)	23	2	—	—	—	—	—	—	—	—	—
Pride Oil Co., Inc. (Tenn.)	15	1	—	—	—	—	—	—	—	—	—
Private Brand Services	2	1	—	—	—	—	—	—	—	—	—
Publix Oil Co., Inc.	210	6	—	—	—	—	—	—	—	—	—
Quaker State Oil Ref. Corp.	263	4	—	—	—	—	—	—	42	—	122
Quality Oil Co. (xxx)	164	4	—	—	—	—	—	—	—	—	—
Quarles Petroleum, Inc.	307	1	—	—	—	—	—	—	—	—	—
Racetrac Petroleum, Inc.	140	13	—	—	—	—	—	—	—	—	—
Red Hed Oil Co. (xxx)	27	1	—	—	—	—	—	—	—	—	—
Reinhardt Oil Corp.	35	1	—	—	—	—	—	—	35	—	—
Reynolds Industries	14	2	1	—	—	13	—	—	—	—	—
Rock Island Refining Corp.	254	3	—	—	—	—	—	—	—	—	—
Rocket Oil Co.	1	1	—	—	—	—	—	—	—	—	—
Romaco, Inc.	312	5	—	—	—	—	—	—	—	—	—
Ryan DeWitt Corp.	23	1	—	—	—	—	—	—	23	—	—
Santee Oil Co., Inc.	59	1	—	—	—	—	—	—	—	—	—
Save-X, USA, Inc.	42	2	—	—	—	—	—	—	—	—	—
Self Service Oil Co. (xxx)	19	4	—	—	—	—	—	—	—	—	—
Shelby Petroleum Corp.	20	2	—	—	—	—	—	—	—	—	—
Shell Oil Co.	12,282	40	—	9	—	191	47	142	248	214	13
Shotmeyer Bros.	65	1	—	—	—	—	—	—	—	65	—
Shotmeyer Oil Corp. (xxx)	41	3	—	—	—	—	—	—	1	39	1
The Sico Co.	143	2	—	—	—	—	—	—	—	—	140
Simon Oil Co.	90	1	—	—	—	—	—	—	90	—	—
Smith-Shafer Oil Co.	9	3	—	—	—	—	—	—	—	—	—
Southeastern Petroleum Sales Corp. (xxx)	50	2	—	—	—	—	—	—	—	—	—
M. Spiegel & Sons Oil Corp.	25	1	—	—	—	—	—	—	25	—	—
Standard Cycle & Auto Supply	52	1	—	—	—	—	—	52	—	—	—
Standard Oil Co. (Sohio) (xxx)	2,220	20	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)
Star Oil Co.	49	1	—	—	—	—	—	—	—	—	—
Star Service & Petroleum Co.	186	19	—	—	—	—	—	—	—	—	—
J.D. Streett & Co. (xxx)	356	5	—	—	—	—	—	—	—	—	—

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*Total branded retail outlets include garages, motels, C-stores, and service stations. By U.S. Census Bureau definition, only establishments generating 50% or more of their income from the sale of petroleum products and services are service stations.

†Total number of states where gasoline is branded includes the District of Columbia.

South Atlantic									East North Central					East South Central			
Del.	Md.	D.C.	Va.	W.Va.	N.C.	S.C.	Ga.	Fla.	Ohio	Ind.	Ill.	Mich.	Wis.	Ky.	Tenn.	Ala	Miss.
—	—	—	—	—	—	—	—	8	—	1	55	—	14	3	—	—	—
—	—	—	—	—	—	—	—	—	—	—	2	—	—	—	3	—	—
—	—	—	—	—	—	—	—	—	—	55	120	3	103	2	34	—	16
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10	40	50
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	30	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	4	79	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	43	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	680	574	288	553	13	101	—	—	—
—	—	—	—	—	50	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	7	—	33	20	46	12	3	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
(x)	(x)	(x)	(x)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	1	—	—	—	—	—	8	—	1	1	—	1	1	1	1
—	—	—	—	—	—	—	—	—	1	1	—	70	—	—	—	—	—
—	—	—	—	—	—	—	—	90	—	—	—	—	—	—	—	—	—
—	—	—	16	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	4	—	—	—	—	—	—	—	—
67	188	2	218	26	381	57	58	326	443	244	637	977	686	38	279	19	1
—	—	—	—	—	—	—	—	—	—	25	—	—	—	—	—	—	—
—	—	—	24	—	14	45	89	83	—	—	—	2	—	5	24	30	32
—	—	—	15	—	24	9	53	158	—	—	—	32	96	6	70	106	24
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—
(x)	(x)	(x)	(x)	(x)	(x)	(x)	—	—	(x)	(x)	(x)	(x)	(x)	—	—	(x)	—
—	—	—	—	—	—	—	—	—	3	57	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	13	—	—	—	—	—
—	—	—	251	—	4	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	1	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	3	—	—	—	—	—	—	—	39	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	120	—	361	33	943	451	376	567	135	491	581	142	297	156	449	329	263
—	—	—	—	—	—	—	—	—	—	—	13	—	—	—	—	—	—
—	—	—	14	1	9	—	11	10	—	—	—	—	—	10	37	2	—
—	—	—	—	—	22	33	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	20
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	15	—	—
—	—	—	—	—	—	—	—	—	—	—	—	2	—	—	—	—	—
—	—	—	2	—	25	38	45	—	—	—	—	—	—	6	94	—	—
—	—	—	—	50	—	—	—	—	49	—	—	—	—	—	—	—	—
—	—	—	3	—	161	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	307	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	1	—	8	—	4	5	30	23	—	—	—	—	—	—	5	40	2
—	—	—	—	—	—	—	—	—	—	—	—	—	—	27	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	10	163	—	81	—	—	—	—	—
—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	3	39	—	—	—	—	—	—	8	248	14
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	59	—	—	—	—	—	—	—	—	—	—	—
—	—	—	38	—	4	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	3	—	9	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	12	8	—	—
20	255	10	433	54	627	473	547	644	517	388	775	683	217	315	304	576	299
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	2	—	—	6	—	1	—	—	—	—
—	—	—	—	—	—	30	20	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
(x)	(x)	(x)	(x)	(x)	(x)	—	—	—	(x)	(x)	—	(x)	—	(x)	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	49	—	—	—	—	—
—	—	—	—	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)
—	—	—	—	—	—	—	—	—	1	—	143	—	—	29	—	—	—

(xxx) Latest data available. Company either did not respond to the 1983 questionnaire or did not answer all of the questions fully.
(x) Company markets in these states but refuses to disclose the number of outlets involved.
Source: NPN questionnaires and 1982 Factbook.

Branded Retail Outlets (cont'd.)

Company	TOTAL BRANDED RETAIL OUTLETS*	TOTAL NUMBER OF STATES WHERE GASOLINE BRAND IS MARKETED†	New England						Middle Atlantic		
			Maine	N.H.	Vt.	Mass.	R.I.	Conn.	N.Y.	N.J.	Pa.
Steuart Petroleum	6	1	—	—	—	—	—	—	—	—	—
Sun Co.	7,866	30	87	69	36	386	95	161	1,064	607	938
Sunshine Jr. Stores (xxx)	307	5	—	—	—	—	—	—	—	—	—
Tanner Oil Co.	97	3	—	—	—	—	—	—	—	—	—
Taylor Oil Co.	57	2	—	—	—	—	—	—	—	—	—
Tenneco Oil Co. (xxx)	484	17	—	—	—	1	—	3	1	—	1
Texaco, Inc.	18,692	45	193	114	90	476	108	305	857	316	1,186
Thornhill Oil Co., Inc.	20	1	—	—	—	—	—	—	—	—	—
Thornton Oil Corp.	87	15	—	—	—	—	—	4	5	—	—
Tommy Oil Co. (xxx)	36	12	—	—	—	—	—	—	5	—	7
Total Petroleum, Inc.	1,797	21	—	—	—	—	—	—	—	—	—
Transit Oil Co.	14	2	—	—	—	—	—	—	—	—	—
Travelers Petroleum, Inc.	65	3	—	—	—	—	—	—	—	—	—
Trenton Oil Co.	50	1	—	—	—	—	—	—	—	50	—
Union Oil Co. of Calif.	12,669	45	—	—	—	—	—	2	2	2	30
United Refining Co.	363	3	—	—	—	—	—	—	101	—	235
Wake Up Oil Co.	43	1	—	—	—	—	—	—	—	—	—
Warelubco, Inc.	91	6	—	—	—	—	—	—	—	—	—
Warren Equities (xxx)	275	8	4	10	—	47	35	55	26	65	23
Webaco Oil Co.	26	2	—	—	—	—	—	—	13	—	—
Wesson, Inc.	15	1	—	—	—	—	—	15	—	—	—
A.T. Williams Oil	65	2	—	—	—	—	—	—	—	—	—
J.H. Williams Oil Co., Inc.	84	1	—	—	—	—	—	—	—	—	—
Young Oil, Inc.	9	1	—	—	—	—	—	—	—	—	—
Zephyr, Inc.	65	2	—	—	—	—	—	—	—	—	—

Company	TOTAL BRANDED RETAIL OUTLETS*	TOTAL NUMBER OF STATES WHERE GASOLINE BRAND IS MARKETED†	West North Central						
			Minn.	Iowa	Mo.	N.D.	S.D.	Neb.	Kan.
Ada Resources (xxx)	207	1	—	—	—	—	—	—	—
American Petrofina, Inc.	4,201	20	—	18	167	—	1	21	156
Amoco Oil Co.	17,765	44	640	406	560	149	260	215	306
Arkla Chemical Corp.	4	2	—	—	—	—	—	—	—
Armour Oil Co.	75	7	—	—	—	—	—	—	—
Asamera Oil, Inc. U.S.	93	10	—	—	—	—	—	1	—
Atlantic Richfield Co.	5,260	26	—	—	—	—	—	—	—
Beacon Oil Co.	292	2	—	—	—	—	—	—	—
Brennan Petroleum	3	1	—	—	—	—	—	—	—
Cenex	1,177	14	250	100	—	172	107	65	1
Charter Oil Co.	320	6	—	—	—	—	—	—	—
Cheker Oil Co.	381	16	—	8	25	—	—	3	—
Chevron U.S.A.	12,403	41	—	—	—	—	—	1	—
Cities Service Co.	4,727	32	7	—	5	—	—	—	—
Conna Corp.	285	11	—	1	—	—	—	—	—
Conoco, Inc.	4.702	28	148	235	274	52	38	228	203
Cook & Cooley, Inc.	100	1	—	—	—	—	—	—	—
Crystal U.S.A. Oil Co.	116	9	—	—	—	—	—	—	—
Delta Marketing Co.	337	12	—	—	—	—	—	—	—
Derby Refining Co.	520	12	9	110	108	—	3	45	169
Diamond Shamrock Corp.	1,847	24	—	—	1	—	—	—	22
Exxon Co. U.S.A.	20,119	41	—	—	—	63	3	3	—
Farmland Industries, Inc. (xxx)	927	11	112	184	51	100	40	160	211
Fisca Oil Co., Inc.	103	22	1	2	5	—	1	3	2
Franko Oil Co.	92	3	—	—	—	—	—	—	—
Flying J., Inc. (xxx)	86	9	—	—	—	7	—	—	—
Gasco Gasoline	120	1	—	—	—	—	—	—	—
General Oil Co.	51	2	—	—	3	—	—	—	—

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*Total branded retail outlets include garages, motels, C-stores, and service stations. By U.S. Census Bureau definition, only establishments generating 50% or more of their income from the sale of petroleum products and services are service stations.

†Total number of states where gasoline is branded includes the District of Columbia.

South Atlantic									East North Central					East South Central			
Del.	Md.	D.C.	Va.	W.Va.	N.C.	S.C.	Ga.	Fla.	Ohio	Ind.	Ill.	Mich.	Wis.	Ky.	Tenn.	Ala	Miss.
—	6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
31	198	17	143	93	358	240	61	186	732	310	341	399	—	195	62	59	—
—	—	—	—	—	—	—	20	122	—	—	—	—	—	—	—	126	29
—	—	—	—	28	—	—	—	—	42	—	—	—	—	23	—	—	—
—	—	—	9	—	48	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	12	4	29	45	61	130	—	—	—	—	—	11	54	23	10
68	346	17	1,081	26	1,300	616	713	324	—	201	514	2	16	338	859	904	335
—	—	—	—	—	—	—	—	—	—	20	—	—	—	—	—	—	—
—	1	—	6	—	11	3	5	6	11	7	6	2	—	12	2	—	—
—	1	—	1	1	—	—	1	4	9	—	—	—	—	—	1	1	—
—	—	—	—	—	—	—	—	—	—	5	3	416	29	3	21	5	—
—	—	—	—	—	—	—	—	—	—	3	—	—	—	11	—	—	—
—	—	—	—	—	—	52	8	5	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
26	35	—	602	259	1,151	429	423	833	606	406	331	578	381	162	601	1,189	503
—	—	—	—	—	—	—	—	—	27	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	43	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	8	—	3	61	—	—	—	1	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	13	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	25	—	40	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	84	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9	—
—	—	—	—	—	—	—	—	—	—	—	—	50	15	—	—	—	—

West South Central				Mountain								Pacific				
Ark.	La.	Okla.	Texas	Mont.	Idaho	Wyo.	Colo.	N.M.	Ariz.	Utah	Nev.	Wash.	Ore.	Calif.	Alaska	Hawaii
—	—	—	207	—	—	—	—	—	—	—	—	—	—	—	—	—
180	116	151	1,328	—	—	—	—	134	2	—	—	—	—	—	—	—
2	677	70	410	79	100	108	267	18	—	109	3	18	—	—	—	—
2	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	1	4	—	—	—	—	1	41	—	24	—	—
—	—	—	—	5	—	9	36	9	4	9	2	9	—	9	—	—
—	—	—	—	—	—	—	—	—	45	9	37	335	244	1,302	—	59
—	—	—	—	—	—	—	—	—	—	—	—	—	5	287	—	—
—	—	—	—	—	—	—	—	—	3	—	—	—	—	—	—	—
—	—	—	—	109	52	8	7	—	—	16	—	77	49	—	—	—
—	90	—	109	—	—	—	—	—	—	—	—	—	—	—	—	—
2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
39	1	—	222	80	163	37	121	240	252	163	128	606	405	2,477	168	170
122	262	36	160	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
170	524	378	791	293	146	83	352	151	3	123	—	118	6	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	100	—	—
4	16	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—
35	20	4	22	—	—	—	—	—	—	—	—	—	—	—	—	—
4	—	27	8	—	—	—	—	—	—	—	—	—	—	—	—	—
10	22	111	1,255	—	8	22	128	110	8	58	3	12	—	39	—	—
738	973	133	2,824	283	67	32	123	161	314	7	48	302	183	1,179	—	—
—	—	—	—	2	1	6	60	—	—	—	—	—	—	—	—	—
—	—	—	21	—	—	—	3	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	14	73	5	—	—
—	—	—	—	7	8	1	—	—	—	13	2	24	7	17	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	120	—	—
48	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

(xxx) Latest data available. Company either did not respond to the 1983 questionnaire or did not answer all of the questions fully.
(x) Company markets in these states but refuses to disclose the number of outlets involved.
Source: NPN questionnaires and 1982 Factbook.

Branded Retail Outlets (cont'd.)

Company	TOTAL BRANDED RETAIL OUTLETS*	TOTAL NUMBER OF STATES WHERE GASOLINE BRAND IS MARKETED†	West North Central						
			Minn.	Iowa	Mo.	N.D.	S.D.	Neb.	Kan.
Getty Refining & Marketing Co.	4,494	28	310	332	465	35	35	168	316
Giant Industries, Inc.	18	2	—	—	—	—	—	—	—
Golden Gate Petroleum	3	1	—	—	—	—	—	—	—
Growmark, Inc.	260	3	—	115	—	—	—	—	—
Gulf Oil Corp.	14,598	28	—	—	—	—	—	—	—
Gull Industries	103	2	—	—	—	—	—	—	—
Harrell Petroleum Co. (xxx)	27	1	—	—	—	—	—	—	—
Harris Enterprises	41	2	—	—	—	—	—	—	—
Highland Petroleum	12	6	—	—	—	—	1	3	—
Highway Oil, Inc.	218	25	—	1	12	1	4	—	18
Barney Holland Oil Co.	58	1	—	—	—	—	—	—	—
Horkey Oil Co.	25	1	—	—	—	—	—	—	—
Horn Distributing Co.	22	1	—	—	—	—	—	—	—
Hudson Oil Co.	265	NA	—	—	—	—	—	—	—
Husky Oil Co. (xxx)	562	17	—	2	—	3	5	46	2
JS & J Service, Inc.	19	2	—	—	—	—	—	—	—
Kellett Oil Co.	20	3	—	—	15	—	—	—	—
Kent Oil Co.	20	1	—	—	—	—	—	—	—
Kerr-McGee Refining Corp.	1,814	18	57	132	133	8	35	98	166
Krause General Oil Corp. (xxx)	52	1	—	32	—	—	—	—	—
Kwik Shop, Inc.	100	3	—	26	—	—	—	27	47
Land O Lakes	393	6	103	134	—	5	—	68	—
Lokey Oil Co.	34	1	—	—	—	—	—	—	—
Malco Products, Inc. (xxx)	73	3	—	—	—	—	—	—	—
Martin Oil Marketing, Ltd.	132	11	1	4	—	—	—	—	—
Merritt Truax, Inc.	49	1	—	—	—	—	—	—	—
Mico Oil Co., Inc.	28	15	4	1	2	1	2	—	2
Mid-Missouri Oil Co.	7	1	—	—	7	—	—	—	—
Milder Oil Co. (xxx)	15	1	—	—	—	—	—	15	—
Mobil Oil Corp.	16,216	44	518	200	486	120	188	212	174
Munford, Inc.	485	13	—	—	—	—	—	—	—
Murphy Oil Corp.	717	14	62	—	—	—	—	—	—
Musket Corp.	120	9	—	—	4	—	—	—	38
National Convenience Stores, Inc. (xxx)	131	39	(x)	(x)	(x)	(x)	(x)	(x)	(x)
Neal, Inc.	44	1	—	—	—	—	—	—	—
Newell Oil Co.	14	1	—	—	—	—	—	—	—
Orleans Oil Co.	22	1	—	—	—	—	—	—	—
Pacer Oil Co.	15	2	—	—	—	—	—	—	—
Curtis Parker Oil Co.	36	1	—	—	—	—	—	—	—
Peavey Oil Co.	6	1	—	—	—	—	—	—	—
Pester Corp.	214	10	13	97	22	—	5	15	18
Phillips Petroleum Co.	12,035	38	505	516	881	39	118	283	351
Piasa Motor Fuels	15	2	—	—	2	—	—	—	—
Powerline Oil Co.	33	2	—	—	—	—	—	—	—
Pride of Texas Dist. Co. (xxx)	29	1	—	—	—	—	—	—	—
Quortrap Petroleum Co. (xxx)	12	1	—	—	—	—	—	—	—
Racetrac Petroleum, Inc.	140	13	—	—	1	—	—	—	—
River City Petroleum (xxx)	18	1	—	—	—	—	—	—	—
Sahara Oil Co. (xxx)	22	1	—	—	—	—	—	—	—
Schaeffer Oil Co. (xxx)	29	5	1	—	—	5	13	3	—
Self Service Oil Co.	19	4	—	2	5	—	—	—	—
Shell Oil Co.	12,282	40	—	57	216	—	—	—	—
Southern Counties Oil Co. (xxx)	5	1	—	—	—	—	—	—	—
Standard Oil Co. (Ohio)	2,200	20	—	—	—	—	—	—	—
Star Service & Petroleum Co.	186	19	—	(x)	(x)	—	—	(x)	(x)
J.D. Streett & Co. (xxx)	356	5	—	15	168	—	—	—	—
Suburban Propane Gas Corp.	145	5	—	—	—	—	—	—	—
Sun Co.	7,866	30	—	364	331	—	—	9	—
Sunny Service Stations, Inc.	10	1	—	—	—	—	—	—	—
Sunshine Jr. Stores (xxx)	307	5	—	—	—	—	—	—	—
Tenneco Oil Co. (xxx)	484	17	—	—	—	—	—	—	—
Texaco, Inc.	18,692	45	—	—	126	—	34	64	—
Texas Star, Inc.	8	1	—	—	—	—	—	—	—
Thornton Oil Corp.	87	15	—	—	—	—	—	—	—
Time Oil Co.	213	5	—	—	—	—	—	—	—
Tommy Oil Co., Inc. (xxx)	36	12	—	—	3	—	—	—	2
Tooley Oil Co.	11	1	—	—	—	—	—	—	—
Total Petroleum, Inc.	1,797	21	88	137	346	4	22	99	329
Truax Corp.	75	2	—	—	—	—	—	—	—
Union Oil Co. of Calif.	12,669	45	268	68	12	8	9	3	1
Warelubco, Inc.	91	6	—	15	3	—	—	—	—
Webster Oil Co.	18	1	—	—	18	—	—	—	—
Western Marketing, Inc.	53	2	—	—	—	—	—	—	1
Wickland Oil Co.	85	3	—	—	—	—	—	—	—
World Oil	93	1	—	—	—	—	—	—	—

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*Total branded retail outlets include garages, motels, C-stores, and service stations. By U.S. Census Bureau definition, only establishments generating 50% or more of their income from the sale of petroleum products and services are service stations.

†Total number of states where gasoline is branded includes the District of Columbia.

West South Central				Mountain								Pacific				
Ark.	La.	Okla.	Texas	Mont.	Idaho	Wyo.	Colo.	N.M.	Ariz.	Utah	Nev.	Wash.	Ore.	Calif.	Alaska	Hawaii
1	—	355	5	—	—	2	86	—	—	—	—	—	—	88	—	—
—	—	—	—	—	—	—	—	2	16	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
(x)	(x)	(x)	(x)	—	—	—	—	(x)	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	75	28	—	—	—
—	—	—	27	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	3	38	—	—	—
1	—	3	—	—	—	—	1	—	—	—	—	—	—	—	—	—
—	1	—	12	—	—	4	2	—	—	—	—	—	—	—	—	—
—	—	—	58	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	25	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	22	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	1	92	37	55	92	19	5	142	18	37	7	2	—	—
—	—	—	—	—	—	—	—	—	1	—	—	—	—	18	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	20	—	—	—	—	—	—	—	—	—	—	—	—	—
231	—	355	215	—	—	—	—	51	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	34	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	14	—	—	—	—	46	13	—	—	—	—	—	—	—
—	—	—	1	—	—	—	—	—	—	—	—	—	—	2	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	49	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
88	175	92	1,157	—	—	—	—	25	151	—	19	371	315	1,664	—	—
17	60	—	60	—	—	—	—	—	—	—	—	—	—	—	—	—
15	47	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1	1	60	6	—	—	—	9	2	—	—	—	—	—	—	—	—
(x)	—	—	—	(x)	(x)	(x)	—	(x)	—	(x)	—	(x)	(x)	—	(x)	(x)
—	—	—	44	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	14	—	—	—	—	—	—	—	—	—	—	—	—	—
—	22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1	—	14	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	36	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	6	—	—	—
—	—	—	—	—	—	3	39	—	—	—	—	—	—	—	—	—
295	222	581	1,556	—	90	62	303	198	39	126	21	4	4	1	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	27	—	6
—	—	—	29	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	12	—	—	—	—	—	—	—	—	—	—	—	—	—
4	10	—	7	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	18	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	22	—	—	—	—	—	—	—
—	—	—	—	—	—	7	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
92	420	1	624	—	37	—	22	116	144	10	61	367	257	1,804	—	73
—	—	—	—	—	—	—	—	—	—	—	—	—	5	—	—	—
(x)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
(x)	(x)	(x)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	14	—	—	—	12	79	38	2	—	—	—	—	—	—
2	—	292	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	10	—	—	—
—	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	46	—	39	—	—	—	14	—	—	—	—	—	—	—	—	—
438	868	493	2,119	—	79	74	286	177	196	154	56	468	392	1,221	92	50
—	—	—	8	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	6	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	2	—	—	—	—	—	10	140	14	47	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	11	—	—
21	6	155	26	—	—	—	47	11	24	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	3	72	—	—	—
101	26	3	90	4	63	4	1	2	145	43	60	355	281	2,025	106	140
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	52	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	6	—	1	78	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	93	—	—

(xxx) Latest data available. Company either did not respond to the 1983 questionnaire or did not answer all of the questions fully.
(x) Company markets in these states but refuses to disclose the number of outlets involved.
Source: NPN questionnaires and 1982 Factbook.

Average Number of Employees in Oil

(As of Jan. 1, 1982)

	Mining	Manufacturing		Transportation		Wholesale	Retail	
	Crude Oil and Natural Gas Extraction	Petroleum Refining	Lubricating Oils and Greases	Pipelines (Except Natural Gas)	Gas Production and Distribution	Petroleum and Petroleum Products	Gasoline Service Stations	Total
Alabama	2,716	419	36	96	2,555	4,349	7,428	17,059
Alaska	7,064	N.D.	0	N.D.	261	307	835	8,467
Arizona	145	100	0	100	980	1,576	7,330	10,231
Arkansas	3,994	741	N.D.	330	2,399	2,387	4,557	14,408
California	37,969	25,863	873	907	10,172	16,469	61,405	153,658
Colorado	25,104	595	31	163	2,348	3,327	9,389	40,957
Connecticut	280	N.D.	90	N.D.	1,300	2,670	8,940	13,280
Delaware	36	1,005	10	0	389	499	1,491	3,430
Florida	696	139	165	71	2,153	7,399	26,897	37,520
Georgia	122	105	126	494	3,620	6,393	14,260	25,120
Hawaii	N.D.	462	0	0	362	469	3,307	4,600
Idaho	282	0	0	15	532	1,643	1,984	4,456
Illinois	7,300	7,600	850	1,100	8,900	10,500	27,200	63,450
Indiana	922	3,259	402	525	3,166	4,282	15,625	28,181
Iowa	12	0	47	190	1,219	3,621	10,759	15,848
Kansas	17,307	4,629	357	2,162	4,857	2,681	6,922	38,915
Kentucky	3,421	3,716	2	169	2,970	3,081	9,379	22,738
Louisiana	94,721	15,288	519	1,124	7,092	6,588	9,438	134,770
Maine	N.A.	0	0	N.A.	N.A.	1,300	2,300	3,600
Maryland	67	0	197	0	1,451	3,532	12,960	18,207
Massachusetts	29	N.D.	338	N.D.	5,020	3,712	13,614	22,713
Michigan	4,700	2,183	431	243	8,382	6,496	20,170	42,605
Minnesota	301	1,003	106	198	2,677	2,877	15,067	22,229
Mississippi	11,778	1,379	47	179	2,235	3,171	4,743	23,532
Missouri	300	N.A.	280	250	5,000	7,100	13,270	26,200
Montana	6,852	1,074	0	100	113	1,760	2,596	12,495
Nebraska	1,053	62	N.D.	110	3,910	1,774	6,125	13,034
Nevada	744	48	N.D.	22	541	552	3,599	5,506
New Hampshire	2	0	1	3	317	666	2,464	3,453
New Jersey	131	9,260	989	159	1,994	4,715	18,258	35,506
New Mexico	16,328	1,019	17	251	3,686	1,846	4,149	27,296
New York	2,463	10,708	396	125	7,139	14,096	27,830	62,757
North Carolina	8	0	165	120	2,490	7,168	10,243	20,192
North Dakota	9,286	255	0	135	20	2,349	2,210	14,255
Ohio	12,413	10,305	648	750	7,951	6,550	25,044	63,661
Oklahoma	92,100	8,200	390	2,700	5,500	7,900	5,200	121,990
Oregon	125	0	7	0	1,526	2,401	7,880	11,939
Pennsylvania	5,061	13,396	1,397	719	9,089	11,040	28,079	68,781
Rhode Island	83	0	0	0	859	668	2,097	3,707
South Carolina	N.A.	N.A.	N.A.	N.A.	581	3,743	6,543	10,867
South Dakota	155	24	0	63	N.D.	1,480	2,647	4,369
Tennessee	1,124	319	27	48	1,771	4,498	12,251	20,038
Texas	278,896	43,960	962	5,968	28,833	26,724	36,279	421,622
Utah	5,915	939	N.A.	109	2,769	2,057	4,319	16,108
Vermont	0	0	0	0	142	351	1,676	2,169
Virginia	300	200	0	100	2,500	7,700	14,100	24,900
Washington*	103	1,625	N.D.	89	1,571	2,993	9,397	15,778
West Virginia	13	291	2,992	46	492	517	554	4,905
Wisconsin*	17	150	112	157	2,865	4,547	14,324	22,172
Wyoming	22,008	1,804	N.D.	424	914	1,162	2,991	29,303
Dist. of Columbia	34	150	0	0	726	369	1,047	2,326
Total	**673,940**	**172,275**	**13,010**	**20,514**	**168,339**	**226,053**	**561,172**	**1,835,303**

N.D. = Non-Disclosure; N.A. = Not Available; * = 1980 data.
Source: Independent Petroleum Assn. of America, "Oil Industry in Your State, 1982."

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How Distillates Were Used in 1981

(Add 000 bbl.)

Use	1981	1980	% Change	% Share of total distillate use in 1981	% Share of total distillate use in 1980
Heating	(a)	(a)	—	—	—
Residential	197,400	227,361	(13.2)	19.1	20.9
Commercial	78,663	92,136	(14.6)	7.6	8.5
Industrial	80,216	86,069	(6.8)	7.8	7.9
Farm	73,615	69,665	5.7	7.1	6.4
Oil Company	24,205	29,185	(17.1)	2.3	2.7
Elec. Utils.	31,812	18,192	74.9	3.1	1.7
Railroads	100,482	102,022	(1.5)	9.7	9.4
Vessels	35,201	41,025	(14.2)	3.4	3.8
Military	17,763	19,138	(10.3)	1.7	1.8
Highway diesel	323,431	340,002	(4.9)	31.3	31.3
Off-highway diesel	38,851	51,705	(24.9)	3.8	4.8
All other	21,032	19,994	5.2	2.0	1.8
Total	**1,032,476**	**1,086,709**	**(5.0)**	—	—

(a) Separate heating category no longer available. The sum of the commercial and industrial categories roughly equals the heating totals of prior years.

Source: Deliveries of Fuel Oil and Kerosine in 1981, Petroleum Supply Annual, Department of Energy, July, 1982.

How Resid Was Used in 1981

(Add 000 bbl.)

Use	1981	1980	% Change	% Share of total residual use in 1981	% Share of total residual use in 1980
Heating	(a)	(a)	—	—	—
Commercial	67,035	98,034	(31.6)	8.8	10.5
Industrial	117,024	163,564	(28.5)	15.4	17.4
Oil Company	51,870	59,519	(12.9)	6.8	6.3
Elec. Utils.	325,486	390,105	(16.6)	42.7	41.6
Railroads	178	665	(73.2)	—	—
Vessels	188,632	213,131	(11.5)	24.8	22.7
Military	7,008	8,066	(13.1)	0.9	0.9
All other	4,795	4,382	9.4	0.6	0.5
Total	**762,030**	**937,466**	**(18.7)**	—	—

(a) Separate heating category no longer available. The sum of the commercial and industrial categories roughly equals the heating totals of prior years.

Source: Deliveries of Fuel Oil and Kerosine in 1981, Petroleum Supply Annual, Department of Energy, July, 1982.

How Kerosine Was Used in 1981

(Add 000 bbl.)

Use	1981	1980	% Change	% Share of total kerosine use in 1981	% Share of total kerosine use in 1980
Heating	(a)	(a)	—	—	—
Residential	15,052	18,807	(20.0)	32.5	32.4
Commercial	12,229	7,161	70.8	26.4	12.4
Industrial	3,871	8,556	(54.6)	8.4	14.8
Farm	1,591	2,069	(23.1)	3.4	3.4
All other	13,563	21,377	(36.7)	29.3	36.9
Total	**46,306**	**57,970**	**(20.1)**	—	—

(a) Separate heating category no longer available. The sum of the commercial and industrial categories roughly equals the heating totals of prior years.

Source: Deliveries of Fuel Oil and Kerosine in 1981, Petroleum Supply Annual, Department of Energy, July, 1982.

How New Homes Are Heated

Fuel oil's position in the new homes market continued to erode in 1981, the most recent year for which data are available. Only in the Northeast did oil make any showing at all. Nationwide oil dropped to 2% of the total of new homes built in 1981.

Region	New Homes Completed (Add 000)	Share of New Homes by Fuels and Percentages			
		Gas	Electric	Oil	Other
Northeast	87	35%	39%	13%	14%
North Central ...	140	62	26	—	10
South	408	31	64	—	4
West	183	51	41	—	8
Total 1981	**819**	**41%**	**50%**	**2%**	**7%**
Total 1980	**957**	**41%**	**50%**	**3%**	**5%**

Source: U.S. Department of Commerce, Construction Reports C25-81-13 July, 1982.

Gas: Who Uses It for Heat

Although gas added more than 900-million new consumers in 1981, it slipped for the first time in years in both new homes and conversions. New homes were down 9.1% from 1980's total of 500,000 while conversions skidded 22% from the preceding year's total of 583,000.

	% of Gas-heated homes to total gas-using homes	Consumers Added in 1981 (Add 000)		
		New homes	Existing homes	Total added
New England	65.9%	6.6	31.2	37.8
Mid-Atlantic	61.6	33.0	171.9	204.9
East North Central	93.3	60.1	100.6	160.7
West North Central	96.7	32.1	20.6	52.7
South Atlantic	90.6	53.7	102.5	156.2
East South Central	98.0	16.9	4.0	20.9
West South Central	99.4	67.1	1.6	68.7
Mountain	98.5	59.8	3.6	63.4
Pacific	94.1	131.6	15.6	147.2
Total	**88.3%**	**460.9**	**451.6**	**912.5**
% Change '81 vs. '80 ...	—	-9.1%	-22.5%	-16.3%

Source: American Gas Assn., Home Heating Survey, 1981.

Gas Heat Equipment Shipments

Shipments of central heating furnaces and boilers for gas-fired continued the slippage of recent years, according to Gas Appliance Manufacturers Assn. Shipments of furnaces fell 17.8% in 1982 while those of boilers dropped 8.8%. About the only bright spot in the entire year was that of residential wall furnaces. They rose 4.3%. The slump paralleled the decline in the economy generally.

Class and Type of Equipment	1982	1981	% Change
Central Heating:			
Furnaces	1,165,200	1,416,700	-17.8%
Boilers	147,600	161,600	-8.8
Space Heating:			
Wall Furnaces Vented	132,630	127,160	-14.3
RV Systems	109,370	115,671	-5.4
Unit Heaters	126,230	142,660	-11.5
Duct Furnaces	17,040	17,675	-3.6

Source: Gas Appliance Manufacturers Assn.

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REGULAR 138.9
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CAR WASH
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Distillate Sales in 1981 . . .

(Add 000 bbl.)

Destination	Residential		Commercial		Industrial		Oil Company	
	1981	1980(a)	1981	1980(a)	1981	1980(a)	1981	1980(a)
PAD District 1								
New England States								
Connecticut	12,979	13,669	2,940	2,918	958	2,571	51	82
Maine	5,234	6,388	1,745	1,848	326	377	58	23
Massachusetts	18,747	22,773	5,773	7,525	1,526	1,361	45	56
New Hampshire	3,485	3,540	534	1,050	379	367	17	15
Rhode Island	2,573	3,306	382	618	208	285	8	11
Vermont	2,013	2,193	555	620	131	163	10	15
Central Atlantic States								
Delaware	1,031	1,316	634	635	161	282	36	5
District of Columbia	282	751	261	648	78	37	2	2
Maryland	6,805	8,810	1,572	2,870	1,486	1,715	166	194
New Jersey	23,217	24,014	7,680	9,181	7,635	5,684	680	176
New York	35,129	37,775	12,628	14,518	3,629	6,406	247	318
Pennsylvania	24,260	27,836	5,172	5,867	5,466	6,140	728	728
Lower Atlantic States								
Florida	985	1,216	2,578	1,928	1,937	2,119	380	374
Georgia	184	578	1,230	316	1,158	1,638	53	80
North Carolina	5,529	7,039	1,346	1,680	1,611	1,968	82	82
South Carolina	1,432	1,587	434	481	583	672	64	56
Virginia	5,585	7,396	1,399	1,643	1,570	1,948	906	112
West Virginia	894	1,181	712	266	1,734	1,775	173	292
PAD 1 Total	**150,364**	**171,368**	**47,595**	**54,612**	**30,576**	**35,508**	**3,706**	**2,621**
PAD District 2								
Illinois	2,624	3,553	4,070	2,128	2,186	2,043	487	595
Indiana	4,110	5,459	1,142	2,010	2,447	1,944	175	205
Iowa	2,016	2,442	624	770	613	753	25	44
Kansas	19	155	297	370	354	267	850	531
Kentucky	573	829	603	2,664	3,346	2,205	78	323
Michigan	7,913	9,297	2,373	3,169	1,564	1,431	108	128
Minnesota	4,829	6,005	837	1,478	1,086	1,295	83	90
Missouri	1,410	1,259	775	1,023	1,249	596	184	95
Nebraska	386	376	340	185	183	126	33	36
North Dakota	1,068	1,216	393	658	450	213	486	212
Ohio	5,710	7,526	2,603	2,625	5,221	6,111	366	382
Oklahoma	96	17	525	323	926	297	2,082	902
South Dakota	702	785	251	374	94	79	67	25
Tennessee	472	317	1,121	1,027	1,399	2,080	123	233
Wisconsin	7,508	8,252	1,155	1,714	916	977	45	44
PAD 2 Total	**39,436**	**47,488**	**17,109**	**20,518**	**22,034**	**20,417**	**5,192**	**3,845**
PAD District 3								
Alabama	17	27	998	1,077	1,746	2,336	59	226
Arkansas	20	255	176	190	628	474	192	228
Louisiana	0	9	518	665	3,595	4,200	6,057	5,032
Mississippi	2	16	138	45	1,964	1,045	355	430
New Mexico	18	25	683	225	886	1,014	352	193
Texas	7	14	3,749	4,758	4,841	7,392	8,160	8,980
PAD 3 Total	**64**	**346**	**6,262**	**6,960**	**13,660**	**16,461**	**15,175**	**15,089**
PAD District 4								
Colorado	54	70	312	297	946	991	139	69
Idaho	424	425	122	195	428	501	9	24
Montana	274	374	381	302	380	240	312	152
Utah	73	102	206	893	823	709	514	108
Wyoming	26	24	125	373	2,129	2,010	2,314	1,157
PAD 4 Total	**851**	**995**	**1,146**	**2,060**	**4,706**	**4,451**	**3,288**	**1,510**
PAD District 5								
Alaska	912	1,216	533	598	722	710	6	2
Arizona	1	2	60	289	1,679	1,667	4	16
California	72	100	3,742	3,345	3,898	3,734	887	454
Hawaii	1	1	178	413	107	112	163	202
Nevada	151	193	333	368	283	307	4	3
Oregon	2,541	2,097	959	1,859	1,466	1,266	255	203
Washington	3,007	3,555	746	1,114	1,085	1,456	505	260
PAD 5 Total	**6,685**	**7,164**	**6,551**	**7,986**	**9,240**	**9,252**	**1,824**	**1,140**
U.S. Total	**197,400**	**227,361**	**78,663**	**92,136**	**80,216**	**86,089**	**29,185**	**24,205**

(a) Revised.

. . . By Categories and Uses

	Electric Utility		Farm		Military		Railroad		Vessel Bunkering	
Destination	1981	1980	1981	1980(a)	1981	1980	1981	1980(a)	1981	1980(a)
PAD District 1										
New England States										
Connecticut	31	108	53	85	0	1	25	83	7	29
Maine	36	64	78	112	49	23	122	161	85	29
Massachusetts	325	412	71	135	294	101	148	200	121	155
New Hampshire	15	15	50	64	4	11	2	5	9	9
Rhode Island	19	30	17	18	23	1	47	0	37	33
Vermont	17	17	92	117	0	1	15	27	6	6
Central Atlantic States										
Delaware	120	193	97	111	49	44	21	22	9	52
District of Columbia	713	1,288	0	0	58	87	17	63	0	1
Maryland	531	1,671	416	518	426	500	622	745	579	620
New Jersey	949	1,956	226	207	142	71	291	275	1,496	1,798
New York	897	760	923	1,203	228	39	1,208	1,209	802	1,027
Pennsylvania	1,686	2,279	1,057	1,322	163	171	2,959	3,833	321	371
Lower Atlantic States										
Florida	2,088	2,533	744	1,079	60	61	1,748	1,743	4,574	2,248
Georgia	439	774	715	1,085	272	237	1,909	2,511	389	420
North Carolina	433	496	1,004	1,437	94	69	916	1,273	87	125
South Carolina	499	667	661	750	130	134	384	437	192	166
Virginia	574	887	351	510	440	268	2,195	2,388	630	762
West Virginia	810	702	79	93	2	24	1,487	1,517	189	143
PAD 1 Total	**10,182**	**14,852**	**6,634**	**8,846**	**2,434**	**1,843**	**14,116**	**16,492**	**9,533**	**7,994**
PAD District 2										
Illinois	387	970	2,965	3,185	21	552	5,230	6,390	149	251
Indiana	693	835	2,175	2,124	81	10	3,385	3,426	110	79
Iowa	2	39	3,305	3,417	46	29	1,007	1,384	25	25
Kansas	62	43	1,986	2,182	36	11	3,810	4,364	1	1
Kentucky	306	237	611	399	30	45	3,232	3,261	2,202	3,162
Michigan	604	1,049	3,003	2,361	323	386	1,784	1,862	70	62
Minnesota	52	608	3,467	3,619	9	43	1,524	1,653	323	262
Missouri	45	471	2,987	3,130	43	24	1,375	1,512	674	592
Nebraska	93	189	2,646	3,020	5	23	896	1,461	0	12
North Dakota	91	84	1,852	1,825	6	562	1,135	1,165	0	0
Ohio	572	1,858	1,842	2,252	49	87	6,869	6,780	99	137
Oklahoma	32	18	884	1,090	0	82	1,659	700	0	2
South Dakota	35	103	1,331	1,420	21	41	90	155	0	0
Tennessee	243	397	797	774	9	28	2,921	2,667	1,940	999
Wisconsin	60	552	2,121	1,952	28	12	1,014	1,027	168	174
PAD 2 Total	**3,277**	**7,453**	**31,972**	**32,750**	**707**	**1,935**	**35,931**	**37,807**	**5,761**	**5,758**
PAD District 3										
Alabama	49	128	1,103	1,335	40	91	4,064	4,277	1,434	619
Arkansas	15	335	2,905	2,712	16	29	2,698	2,425	110	94
Louisiana	1,387	2,116	2,081	2,334	1,557	83	3,193	3,114	6,702	5,757
Mississippi	93	299	2,277	2,407	70	42	1,037	1,414	447	351
New Mexico	150	276	335	294	49	12	2,256	2,064	0	0
Texas	380	2,050	8,331	9,069	2,171	6,028	12,916	11,332	10,965	9,686
PAD 3 Total	**2,074**	**5,204**	**17,032**	**18,151**	**3,903**	**6,285**	**26,164**	**24,626**	**19,658**	**16,507**
PAD District 4										
Colorado	83	164	1,089	1,248	95	80	1,655	2,256	0	0
Idaho	0	0	1,009	897	85	126	610	927	0	0
Montana	40	94	908	769	4	24	1,455	1,841	0	0
Utah	59	77	156	180	0	9	1,743	1,790	0	0
Wyoming	136	145	312	312	4	14	3,963	3,155	0	0
PAD 4 Total	**318**	**480**	**3,474**	**3,406**	**188**	**253**	**9,426**	**9,969**	**0**	**0**
PAD District 5										
Alaska	544	502	21	17	357	332	116	60	955	1,143
Arizona	24	1,003	837	1,022	3	16	1,329	1,181	0	0
California	865	897	7,450	7,002	6,155	4,783	7,894	6,601	2,566	2,363
Hawaii	789	886	450	391	3,193	2,727	10	10	66	28
Nevada	14	83	120	115	12	9	580	854	0	0
Oregon	36	366	705	814	15	54	3,227	2,662	761	152
Washington	69	86	970	1,101	796	901	1,689	1,760	1,725	1,256
PAD 5 Total	**2,341**	**3,823**	**10,553**	**10,462**	**10,531**	**8,822**	**14,845**	**13,128**	**6,073**	**4,942**
U.S. Total	**18,192**	**31,812**	**69,665**	**73,615**	**17,763**	**19,138**	**100,482**	**102,022**	**41,025**	**35,201**

(a) Revised. (table continued on next page)

Distillate Sales in 1981 (Continued)

(Add 000 bbl.)

Destination	On-Highway		Off-Highway		Other		Total	
	1981	1980	1981	1980(a)	1981	1980(a)	1981	1980(a)
PAD District 1								
New England States								
Connecticut	2,262	2,446	380	427	59	80	19,745	22,499
Maine	1,248	1,349	176	183	109	70	9,266	10,627
Massachusetts	4,419	4,346	282	253	404	96	32,155	37,413
New Hampshire	692	656	113	102	13	11	5,313	5,845
Rhode Island	590	638	25	38	64	68	3,993	5,046
Vermont	753	699	222	196	14	22	3,828	4,076
Central Atlantic States								
Delaware	862	825	78	169	35	48	3,133	3,702
District of Columbia	376	406	10	14	308	139	2,125	3,436
Maryland	4,730	3,891	571	667	461	216	18,365	22,417
New Jersey	7,460	8,066	562	671	635	620	50,973	52,719
New York	7,227	7,814	774	1,066	571	380	64,263	72,515
Pennsylvania	15,311	16,555	2,476	2,582	378	382	59,977	68,066
Lower Atlantic States								
Florida	12,968	11,704	630	1,088	1,124	2,427	29,816	28,520
Georgia	12,067	10,554	171	394	801	810	19,388	19,397
North Carolina	9,526	8,987	370	496	230	168	21,228	23,820
South Carolina	4,968	5,372	193	267	301	141	9,841	10,730
Virginia	9,038	7,466	574	852	376	174	23,638	24,406
West Virginia	2,833	2,904	327	1,079	210	364	9,450	10,340
PAD 1 Total	**97,330**	**94,678**	**7,934**	**10,544**	**6,093**	**6,216**	**386,497**	**425,574**
PAD District 2								
Illinois	15,037	14,308	826	1,298	445	813	34,427	36,086
Indiana	13,599	13,551	575	630	469	215	28,961	30,488
Iowa	6,334	6,312	314	324	63	254	14,374	15,793
Kansas	5,468	5,449	331	512	25	38	13,239	13,923
Kentucky	5,911	5,890	947	3,373	378	210	18,217	22,598
Michigan	8,230	7,140	481	668	204	288	26,657	27,841
Minnesota	5,957	5,936	499	748	48	89	18,714	21,826
Missouri	8,460	8,430	732	938	69	80	18,003	18,150
Nebraska	3,438	3,426	199	281	14	10	8,233	9,145
North Dakota	2,035	1,849	190	160	2	93	7,708	8,037
Ohio	16,663	16,604	3,195	2,647	1,770	1,388	44,959	48,397
Oklahoma	8,143	7,144	1,095	1,159	77	317	15,519	12,051
South Dakota	1,714	1,708	97	137	4	15	4,406	4,842
Tennessee	9,112	9,080	417	609	958	607	19,512	18,818
Wisconsin	7,230	7,153	442	584	39	98	20,726	22,539
PAD 2 Total	**117,331**	**113,980**	**10,340**	**14,068**	**4,565**	**4,515**	**293,655**	**310,534**
PAD District 3								
Alabama	6,782	7,570	919	1,141	728	592	17,939	19,419
Arkansas	5,458	4,942	733	2,377	165	148	13,116	14,209
Louisiana	10,031	6,756	2,068	1,959	775	779	37,964	32,804
Mississippi	5,298	4,824	991	1,332	815	700	13,487	12,905
New Mexico	5,848	3,939	1,733	1,934	216	246	12,526	10,222
Texas	31,564	28,170	5,465	7,397	1,810	1,063	90,359	95,939
PAD 3 Total	**64,981**	**56,201**	**11,909**	**16,140**	**4,509**	**3,528**	**185,391**	**185,498**
PAD District 4								
Colorado	3,458	3,358	655	838	148	294	8,634	9,665
Idaho	1,331	1,293	639	412	118	79	4,775	4,879
Montana	2,384	2,315	184	384	164	131	6,486	6,626
Utah	2,760	2,609	527	617	254	318	7,115	7,412
Wyoming	2,271	2,206	883	1,702	289	277	12,452	11,375
PAD 4 Total	**12,204**	**11,781**	**2,888**	**3,953**	**973**	**1,099**	**39,462**	**39,957**
PAD District 5								
Alaska	1,067	1,079	269	196	1,046	926	6,548	6,781
Arizona	5,323	5,137	379	769	102	228	9,741	11,330
California	28,423	27,083	2,960	2,815	2,582	2,161	67,494	61,338
Hawaii	423	428	235	247	428	470	6,043	5,915
Nevada	1,813	1,833	158	205	20	52	3,488	4,022
Oregon	5,651	5,714	599	1,558	247	306	16,462	17,051
Washington	5,456	5,517	1,180	1,210	467	493	17,695	18,709
PAD 5 Total	**48,156**	**46,791**	**5,780**	**7,000**	**4,892**	**4,638**	**127,470**	**125,146**
U.S. Total	**340,002**	**323,431**	**38,851**	**51,705**	**21,032**	**19,994**	**1,032,476**	**1,086,709**

(a) Revised.

Source: Deliveries of Fuel Oil and Kerosine in 1981, Petroleum Supply Annual, Department of Energy, July, 1982.

Residual Fuel Oil Sales in 1981 . . .

(Add 000 bbl.)

	Commercial		Industrial		Oil Company		Electric Utility		Military	
Destination	1981	1980[1]	1981	1980[1]	1981	1980[1]	1981	1980	1981	1980
PAD District 1										
New England States										
Connecticut	796	1,171	2,435	6,636	35	57	18,598	20,292	0	0
Maine	364	682	5,290	4,042	0	4	3,774	3,469	0	4
Massachusetts	3,180	4,861	3,925	2,307	74	105	40,654	44,519	98	12
New Hampshire	474	374	421	925	0	0	3,891	4,069	0	0
Rhode Island	192	180	734	629	0	1	1,241	1,337	0	0
Vermont	155	236	192	235	0	0	0	0	0	0
Central Atlantic States										
Delaware	1,980	4,271	1,225	1,704	0	0	4,989	5,995	0	0
District of Columbia	79	38	1	28	0	0	110	286	182	66
Maryland	210	1,159	1,454	2,352	99	222	5,759	7,722	63	135
New Jersey	6,468	10,965	5,099	10,758	4,192	6,239	10,085	12,400	126	57
New York	13,900	25,470	7,549	14,043	221	624	64,047	61,199	932	0
Pennsylvania	1,606	1,523	5,263	7,537	2,278	3,878	15,650	16,854	1,085	230
Lower Atlantic States										
Florida	825	1,476	5,798	13,421	2,012	35	74,640	70,135	119	217
Georgia	9	11	3,156	5,294	16	33	388	128	49	31
North Carolina	103	491	5,141	8,464	7	15	0	39	133	49
South Carolina	102	36	2,555	4,184	43	67	1,357	1,991	49	33
Virginia	384	446	2,608	4,983	66	135	5,681	14,605	293	152
West Virginia	2	5	726	1,090	273	370	0	0	0	0
PAD 1 Total	**30,829**	**53,395**	**53,572**	**88,632**	**9,316**	**11,785**	**250,864**	**265,060**	**3,129**	**986**
PAD District 2										
Illinois	1,260	2,585	4,922	7,437	5,033	4,787	10,083	12,853	0	213
Indiana	79	2,386	4,511	6,622	2,846	5,119	0	0	98	57
Iowa	28	77	58	269	0	0	7	14	7	0
Kansas	0	0	363	361	319	627	14	55	0	0
Kentucky	18	19	651	567	229	275	0	0	252	105
Michigan	114	219	1,555	2,672	350	446	6,490	8,335	217	18
Minnesota	19	31	954	1,535	196	221	0	268	0	37
Missouri	29	545	337	311	262	378	0	25	6	111
Nebraska	17	23	37	29	0	0	0	26	0	0
North Dakota	61	393	812	108	256	159	0	0	0	0
Ohio	28	373	4,023	3,898	954	1,469	234	79	14	0
Oklahoma	0	30	108	251	637	438	0	0	0	0
South Dakota	14	18	132	82	0	0	2	4	0	0
Tennessee	77	48	1,033	1,325	28	22	0	0	0	0
Wisconsin	12	30	640	1,246	109	138	10	76	0	10
PAD 2 Total	**1,756**	**6,777**	**20,136**	**26,713**	**11,219**	**14,079**	**16,840**	**21,735**	**594**	**551**
PAD District 3										
Alabama	0	4	2,458	5,306	20	78	0	0	0	475
Arkansas	150	626	1,759	2,057	0	0	540	2,789	0	0
Louisiana	15,529	19,241	10,601	10,716	2,608	6,557	2,825	5,139	37	2,504
Mississippi	2,774	4,865	773	2,709	776	372	2,035	4,124	0	0
New Mexico	0	0	791	925	0	294	47	79	0	0
Texas	2,550	3,672	13,377	12,355	15,035	9,665	1,284	853	407	758
PAD 3 Total	**21,003**	**28,408**	**29,759**	**34,068**	**18,439**	**16,966**	**6,731**	**12,984**	**444**	**3,737**
PAD District 4										
Colorado	3	3	125	130	0	1,079	32	141	0	0
Idaho	29	365	26	95	0	0	0	0	0	0
Montana	0	5	462	390	1,996	2,525	0	0	0	0
Utah	0	786	908	1,171	72	587	52	12	0	0
Wyoming	5	20	151	408	1,622	1,166	0	0	0	0
PAD 4 Total	**37**	**1,179**	**1,672**	**2,194**	**3,690**	**5,357**	**84**	**153**	**0**	**0**
PAD District 5										
Alaska	0	4	1	0	0	0	222	378	7	0
Arizona	36	0	21	139	0	0	170	890	0	0
California	11,529	6,915	4,275	4,029	6,432	8,703	39,919	75,914	933	459
Hawaii	55	26	290	317	782	940	10,471	10,271	127	47
Nevada	25	7	40	2	0	0	185	2,494	0	0
Oregon	995	890	1,666	2,367	99	178	0	0	0	4
Washington	770	433	5,592	5,103	1,893	1,511	0	226	1,774	2,282
PAD 5 Total	**13,410**	**8,275**	**11,885**	**11,957**	**9,206**	**11,332**	**50,967**	**90,173**	**2,841**	**2,792**
U.S. Total	**67,035**	**98,034**	**117,024**	**163,564**	**51,870**	**59,519**	**325,486**	**390,105**	**7,008**	**8,066**

. . . By Categories and Uses

	Railroad		Vessel Bunkering		Other		Total	
Destination	**1981**	**1980(a)**	**1981**	**1980**	**1981**	**1980(a)**	**1981**	**1980(a)**
PAD District 1								
New England States								
Connecticut	0	0	4	53	83	0	21,951	28,209
Maine	6	5	634	201	22	6	10,090	8,413
Massachusetts	0	2	975	889	767	253	49,673	52,948
New Hampshire	0	0	49	49	0	0	4,835	5,437
Rhode Island	0	0	49	58	11	25	2,227	2,230
Vermont	0	0	0	0	4	0	351	471
Central Atlantic States								
Delaware	0	421	292	392	185	106	8,671	12,889
District of Columbia	0	0	0	0	17	26	389	444
Maryland	0	0	4,729	4,400	82	100	12,396	16,090
New Jersey	0	9	12,287	12,016	22	723	38,279	53,167
New York	0	0	10,922	11,367	297	169	97,868	112,872
Pennsylvania	0	7	4,144	4,591	314	157	30,340	34,777
Lower Atlantic States								
Florida	0	0	6,777	11,437	176	234	90,347	96,955
Georgia	0	0	2,633	2,973	0	42	6,251	8,512
North Carolina	0	0	292	54	1	2	5,677	9,114
South Carolina	4	5	1,024	811	8	0	5,142	7,127
Virginia	2	2	3,949	4,288	89	93	13,072	24,704
West Virginia	0	0	0	0	0	0	1,001	1,465
PAD 1 Total	**12**	**451**	**48,760**	**53,579**	**2,078**	**1,936**	**398,560**	**475,824**
PAD District 2								
Illinois	7	9	0	0	94	139	21,399	28,023
Indiana	0	0	93	127	11	24	7.638	14,335
Iowa	0	0	0	0	0	0	100	360
Kansas	1	3	0	0	0	0	697	1,046
Kentucky	0	0	0	0	0	0	1,150	966
Michigan	30	31	55	176	136	37	8,947	11,934
Minnesota	0	0	273	926	18	26	1,460	3,044
Missouri	0	0	0	0	22	0	656	1,370
Nebraska	3	0	0	0	0	0	57	78
North Dakota	0	0	0	0	1	41	1,130	701
Ohio	0	0	37	256	630	207	5,920	6,282
Oklahoma	0	0	0	0	0	0	745	719
South Dakota	0	0	0	0	13	11	161	115
Tennessee	32	6	45	0	24	71	1.239	1,472
Wisconsin	32	42	46	178	22	31	871	1,751
PAD 2 Total	**105**	**91**	**549**	**1,663**	**971**	**587**	**52,170**	**72,196**
PAD District 3								
Alabama	0	0	2,208	2,927	0	30	4,686	8,820
Arkansas	0	0	0	0	0	0	2,449	5,472
Louisiana	0	0	23,899	28,131	188	398	55,687	72,686
Mississippi	0	0	3,117	5,366	250	23	9,725	17,459
New Mexico	0	0	0	0	18	7	856	1,305
Texas	58	123	35,719	44,880	241	883	68,671	73,189
PAD 3 Total	**58**	**123**	**64,943**	**81,304**	**697**	**1,341**	**142,075**	**178,931**
PAD District 4								
Colorado	0	0	0	0	5	20	165	1,373
Idaho	0	0	0	0	0	0	55	460
Montana	0	0	0	0	61	92	2,519	3,012
Utah	0	0	0	0	32	28	1,064	2,584
Wyoming	3	0	0	0	228	36	2,009	1,630
PAD 4 Total	**3**	**0**	**0**	**0**	**326**	**176**	**5,812**	**9,059**
PAD District 5								
Alaska	0	0	0	0	19	15	249	397
Arizona	0	0	0	0	0	17	227	1,046
California	0	0	63,149	66,330	226	15	126,463	162,365
Hawaii	0	0	1,116	1,395	470	255	13,311	13,251
Nevada	0	0	0	0	0	0	250	2,503
Oregon	0	0	3,644	1,105	3	18	6,407	4,562
Washington	0	0	6,471	7,755	5	22	16,505	17,332
PAD 5 Total	**0**	**0**	**74,380**	**76,585**	**723**	**342**	**163,413**	**201,456**
U.S. Total	**178**	**665**	**188,632**	**213,131**	**4,795**	**4,382**	**762,030**	**937,466**

(a) Revised.

Source: Deliveries of Fuel Oil and Kerosine in 1981, Petroleum Supply Annual, Department of Energy, July 1982.

Kerosine Sales in 1981

(Add 000 bbl.)

	Residential		Commercial		Industrial		Farm		Other		Total	
Destination	**1981**	**1980**	**1981**	**1980**	**1981**	**1980**	**1981**	**1980**	**1981**	**1980**	**1981**	**1980**
PAD District 1												
New England States												
Connecticut	195	233	11	7	6	8	0	0	203	243	415	491
Maine	233	405	45	70	1	12	1	4	10	13	290	504
Massachusetts	181	323	9	30	13	13	1	0	226	332	430	698
New Hampshire	206	322	4	9	0	0	0	0	5	9	215	340
Rhode Island	47	54	1	0	2	4	0	0	4	26	54	84
Vermont	177	230	26	44	0	0	8	5	1	4	212	283
Central Atlantic States												
Delaware	256	275	8	9	0	0	2	13	1	4	267	301
District of Columbia	2	5	1	1	1	1	0	0	69	261	73	268
Maryland	614	830	16	20	15	11	7	11	227	296	879	1,168
New Jersey	193	262	57	39	80	64	0	0	1,131	1,329	1,461	1,694
New York	1,509	1,723	158	169	82	56	19	32	304	329	2,072	2,309
Pennsylvania	1,992	2,362	183	193	118	90	44	44	314	74	2,651	2,763
Lower Atlantic States												
Florida	574	774	64	28	7	12	2	0	101	138	748	952
Georgia	34	91	18	12	10	22	1	0	209	427	272	552
North Carolina	1,939	2,747	45	118	34	37	208	282	130	75	2,356	3,259
South Carolina	553	1,200	29	25	21	50	46	45	30	32	679	1,352
Virginia	919	1,403	37	46	68	57	65	41	83	169	1,172	1,716
West Virginia	275	408	16	37	47	15	0	4	24	32	362	496
PAD 1 Total	**9,899**	**13,647**	**728**	**857**	**505**	**452**	**404**	**481**	**3,072**	**3,793**	**14,608**	**19,230**
PAD District 2												
Illinois	149	161	14	16	249	238	34	10	220	181	666	606
Indiana	537	492	9	31	82	16	67	73	14	47	709	659
Iowa	235	47	14	5	10	21	101	41	14	57	374	171
Kansas	10	5	5	10	43	36	24	192	158	249	240	492
Kentucky	474	1,751	125	622	110	140	86	0	369	399	1,164	2,912
Michigan	206	83	19	15	82	104	9	5	676	1,026	922	1,233
Minnesota	115	114	5	0	0	0	29	10	0	88	149	212
Missouri	76	57	398	171	14	5	53	41	5	41	546	315
Nebraska	29	10	10	21	14	0	24	21	10	10	87	62
North Dakota	14	5	0	0	0	0	0	10	0	0	14	15
Ohio	1,016	1,016	67	130	331	337	76	249	1,261	720	2,751	2,452
Oklahoma	15	21	38	15	43	26	91	0	115	280	302	342
South Dakota	14	10	0	0	0	5	10	0	0	0	24	15
Tennessee	901	549	72	104	67	72	0	11	484	798	1,524	1,534
Wisconsin	72	124	5	57	29	41	9	0	10	0	125	222
PAD 2 Total	**3,863**	**4,445**	**781**	**1,197**	**1,074**	**1,041**	**613**	**663**	**3,336**	**3,896**	**9,667**	**11,242**
PAD District 3												
Alabama	185	198	57	176	43	110	0	0	241	769	526	1,253
Arkansas	42	0	57	132	185	176	28	22	43	241	355	571
Louisiana	28	0	2,530	549	910	1,779	185	66	3,212	3,317	6,865	5,711
Mississippi	29	44	14	0	14	44	0	0	43	154	100	242
New Mexico	85	132	526	659	28	109	0	0	128	439	767	1,339
Texas	114	198	6,808	3,251	810	2,900	256	725	2,757	8,281	10,745	15,355
PAD 3 Total	**483**	**572**	**9,992**	**4,767**	**1,990**	**5,118**	**469**	**813**	**6,424**	**13,201**	**19,358**	**24,471**
PAD District 4												
Colorado	60	23	9	6	0	212	43	23	103	149	215	413
Idaho	0	0	0	0	8	0	0	0	9	0	17	0
Montana	0	0	0	0	0	0	9	0	17	0	26	0
Utah	26	0	60	34	9	17	0	0	60	51	155	102
Wyoming	8	0	0	23	0	33	0	6	61	0	69	62
PAD 4 Total	**94**	**23**	**69**	**63**	**17**	**262**	**52**	**29**	**250**	**200**	**482**	**577**
PAD District 5												
Alaska	0	0	0	0	0	0	0	0	36	19	36	19
Arizona	0	0	18	0	89	55	0	9	0	9	107	73
California	71	18	552	222	107	1,609	53	74	303	194	1,086	2,117
Hawaii	0	0	0	0	0	0	0	0	0	9	0	9
Nevada	36	0	18	0	0	0	0	0	18	0	72	0
Oregon	71	37	53	37	0	19	0	0	18	19	142	112
Washington	535	65	18	18	89	0	0	0	106	37	748	120
PAD 5 Total	**713**	**120**	**659**	**277**	**285**	**1,683**	**53**	**83**	**481**	**287**	**2,191**	**2,450**
U.S. Total	**15,052**	**18,807**	**12,229**	**7,161**	**3,871**	**8,556**	**1,591**	**2,069**	**13,563**	**21,377**	**46.306**	**57,970**

Source: Deliveries of Fuel Oil and Kerosine in 1981, Petroleum Supply Annual, Department of Energy, July, 1982.

U.S. Sales of Distillate Fuel Oil By Uses

(Add 000 bbl.)

Year	Residential	Commercial	Industrial	Farm	Oil Company	Electric Utilities	Diesel	Other	Total
1981 (a)	197,400 (b)	78,663 (b)	80,216 (c)	69,665 (d)	29,185 (c)	18,192	378,853 (e)	180,302 (f)	1,032,476
1980 (a)	227,261 (b)	92,136 (b)	86,089 (c)	73,615 (d)	24,205 (c)	31,812	377,136 (e)	176,355 (f)	1,086,709
1979 (a)	270,306 (b)	99,723 (b)	99,583 (c)	84,926 (d)	22,043 (c)	46,579	392,614 (e)	198,600 (f)	1,214,374

(a) In 1979, DOE changed its sampling and reporting formulas. It eliminated the "heating oils" category and added a new farm category. The sum of the first four categories is roughly related to the old heating oil category but cannot be considered comparable; (b) Primarily space and water heating; (c) Includes some space heating but primarily equipment fuel; (d) Includes space and water heating, crop drying, farm equipment, etc.; (e) Includes 38,851 off-highway in 1981, 51,705 in 1980 and 65,212 in 1979; (f) In 1981, consisted of 100,482 railroads, 41,025 vessel bunkering, 17,763 military, and 21,032 other; in 1980, consisted of 102,022 railroads, 35,201 vessel bunkering, 19,138 military and 34,812 other; in 1979, consisted of 103,493 railroads, 41,725 vessel bunkering, 18,570 military and 34,812 other. Also in 1982, DOE updated the 1981 and 1980 data as above. The pre-1979 categories follow.

Year	Heating Oils	Industrial Use	Oil Company Use	Electric Utilities	Railroads	Vessel Bunkering	Military Use	Diesel Fuel	All Other	Total
1978	533,069	94,797	19,410	77,175	99,841	37,591	20,320	367,799	14,509	1,257,061
1977	538,845	96,502	19,954	76,681	99,306	33,512	20,121	330,864	14,394	1,230,179
1976	543,895	79,956	14,523	60,570	97,467	28,330	17,574	297,249	11,365	1,150,929
1975	488,388	63,993	13,633	63,420	93,191	26,138	18,004	266,903	10,096	1,043,746
1970	521,135	43,668	11,518	24,770	88,416	19,503	12,447	194,919	10,874	927,250
1965	475,992	42,484	10,430	3,661	86,436	15,532	14,953	124,122	13,281	786,891
1960	438,010	34,271	8,347	4,742	86,490	18,730	10,793	74,562	7,380	683,325

Source: Deliveries of fuel oil and kerosine in 1981, Petroleum Supply Annual, Department of Energy, July, 1982.

U.S. Sales of Residual Fuel Oil By Uses

(Add 000 bbl.)

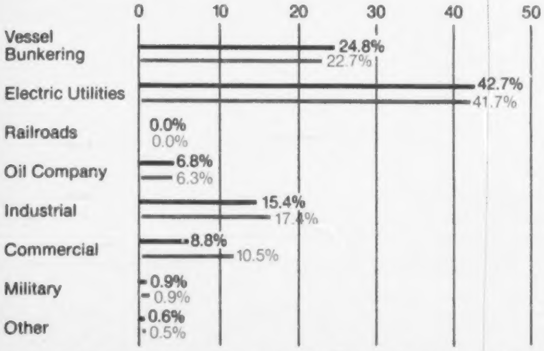
Year	Vessel Bunkering	Electric Utilities	Railroads	Oil Companies	Industrial	Commercial	Military	Other	Total
1981 (a)	188,632	325,486	178	51,870	117,024	67,035	7,008	4,795	762,030
1980 (a)	213,131	390,105	665	59,519	163,564	98,034	8,066	4,382	937,466
1979 (a)	190,543	486,636	245	51,062	198,759	82,729	7,736	16,900	1,034,610

(a) In 1979, DOE changed its sampling and reporting formulas in such a way that none of the new data are directly comparable to the pre-1979 data, which follow. Also, in its 1981 update, DOE revised the totals for 1979 and 1980.

Year	Vessel Bunkering	Electric Utilities	Railroads	Oil Company	Industrial Use	Heating Oils	Military Use	All Other	Total
1978	157,495	533,193	206	57,690	169,403	164,536	16,583	4,127	1,103,233
1977	128,966	569,429	329	60,582	171,967	168,279	16,646	4,729	1,129,927
1976	117,458	492,974	423	58,212	153,596	178,139	18,561	5,785	1,025,148
1975	96,673	454,935	583	50,487	116,675	154,103	19,068	6,066	898,572
1970	89,850	312,420	2,222	38,318	139,647	185,031	28,704	7,925	804,287
1965	73,639	114,884	4,001	34,354	140,602	156,254	40,380	10,004	574,118
1960	94,084	85,408	5,610	45,061	157,270	125,088	31,724	6,291	550,536

Sales of Residuals by Use as Percent of Total

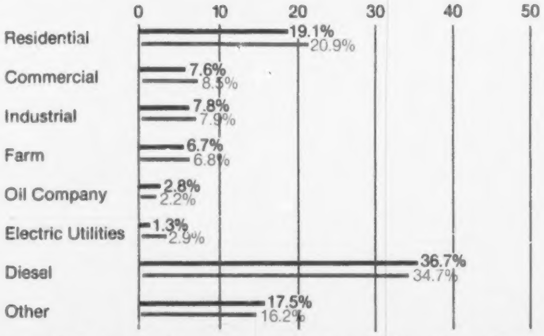
1981 = 762,030,000 bbl. 1980 = 937,466,000 bbl.



Source: Deliveries of Fuel Oil and Kerosine in 1981, Petroleum Supply Annual, Department of Energy, July 1982.

Sales of Distillates by Use as Percent of Total

1981 = 1,032,476,000 bbl. 1980 = 1,086,709,000 bbl.



Source: Deliveries of Fuel Oil and Kerosine in 1981, Petroleum Supply Annual, Department of Energy, July 1982.

World Oil Production by Area

(Add 000 bbl.)

Year	United States	Canada	Latin American	Western Europe	Middle East	Africa	Asia-Pacific	Total Free World	Communist Nations	Total World
1975	3,056,779	520,666	1,603,333	199,950	7,160,993	1,826,255	806,329	15,174,305	4,328,030	19,502,335
1976	2,976,180	488,680	1,625,069	311,858	8,115,708	2,134,861	922,818	16,575,174	4,616,366	21,191,540
1977	3,009,265	482,021	1,647,362	489,328	8,186,851	2,276,007	1,017,244	17,108,078	4,792,617	21,900,695
1978	3,175,927	483,260	1,736,427	643,149	7,884,927	2,233,791	1,037,520	17,195,001	4,963,250	22,158,251
1979	3,114,545	546,040	1,919,535	828,550	7,868,670	2,423,600	1,051,200	17,752,140	5,118,030	22,870,170
1980	3,146,502	521,184	2,036,058	893,406	6,735,498	2,226,378	1,000,278	16,559,304	5,206,350	21,765,654
1981	3,128,780	469,025	2,179,415	955,570	5,749,480	1,672,065	1,027,110	15,181,445	5,192,125	20,373,570

Source: American Petroleum Institute Data Book.

World Crude Oil Reserves by Area

(Add 000 bbl.)

Year (a)	United States	Canada	Latin America	Middle East	Africa	Asia-Pacific	Western Europe	Total Free World	Communist Nations	Total World
1976	32,682,127	6,653,002	35,368,000	368,410,570	65,085,220	21,234,230	25,487,700	554,920,849	103,000,000	657,920,849
1977	30,942,166	6,257,082	29,608,950	367,681,220	60,570,200	19,391,140	24,538,810	538,989,568	101,100,000	640,089,568
1978	29,486,402	5,970,872	40,370,000	366,166,000	59,200,150	19,749,270	26,862,500	547,805,194	98,000,000	645,805,194
1979	27,803,760	6,860,000	41,246,500	369,996,000	57,892,125	20,007,200	23,966,000	547,771,585	94,000,000	641,771,585
1980	27,051,289	6,800,000	56,472,500	361,947,300	57,072,100	19,355,200	23,476,400	522,174,789	90,000,000	642,174,789
1981	29,805,000	6,400,000	69,489,837	362,071,000	55,148,375	19,630,500	23,085,000	565,629,712	86,300,000	651,929,712
1982	29,785,000	7,300,000	84,982,270	362,839,950	56,171,630	19,150,800	24,634,500	584,864,150	85,845,000	670,709,150

(a) As of Jan. 1 of each year.
Source: American Petroleum Institute Data Book.

World Crude Oil Refining Capacity by Area

(barrels per day)

Year	United States	Other Western Hemisphere	Total Western Hemisphere	Middle East	Africa	Asia-Pacific	Europe	Total Free World	Sino Soviet Bloc	Total World
1976	15,236,621	9,713,093	24,949,714	3,284,951	1,328,200	9,868,344	19,972,306	59,403,515	12,406,000	71,809,515
1977	16,398,372	10,015,186	26,413,558	3,347,855	1,444,400	10,047,965	20,859,376	62,113,154	13,067,810	75,180,964
1978	17,047,724	10,592,020	27,352,020	3,506,484	1,467,157	10,176,819	20,728,204	63,352,984	13,938,000	77,290,984
1979	17,440,885	10,273,030	27,713,915	3,546,029	1,667,608	10,284,966	20,328,614	63,541,132	14,748,000	78,289,132
1980	17,988,121	10,683,671	28,671,792	3,518,080	1,666,108	10,386,375	20,243,747	64,486,102	15,346,000	79,832,102
1981	18,620,520	10,716,881	29,337,401	3,729,646	1,697,658	10,554,691	20,205,799	65,524,895	16,036,500	81,561,395
1982	17,889,734	10,720,055	28,609,789	3,312,152	1,761,870	10,966,825	19,444,519	64,095,155	16,533,000	80,628,155

Source: America Petroleum Institute Data Book.

World Natural Gas Production by Area

(Add 000,000 cubic feet)

Year	United States	Canada	Latin America	Middle East	Africa	Asia-Pacific	Western Europe	Total Free World	Communist Nations	Total World
1975	20,108,661	3,075,693	1,735,060	1,436,210	670,402	938,365	5,966,659	33,931,050	13,276,275	47,207,325
1976	19,952,438	3,067,353	1,722,106	1,492,772	905,792	1,173,878	6,343,593	34,657,932	14,801,281	49,459,213
1977	20,025,463	3,230,672	1,865,734	1,506,982	919,464	1,329,016	6,502,502	35,379,833	14,720,257	50,100,090
1978	19,974,033	3,128,056	2,012,912	1,579,478	1,117,416	1,469,154	6,649,855	35,930,904	15,818,398	51,749,302
1979	20,471,260	3,646,500	2,610,000	1,624,700	1,027,900	1,827,900	6,866,800	38,075,060	19,591,400	57,666,460
1980	20,378,787	2,668,300	3,297,500	1,221,300	884,700	2,558,400	6,668,700	37,677,687	21,069,900	58,747,587
1981	20,177,701	2,623,000	3,227,000	1,542,000	1,947,000	2,765,000	6,906,000	39,187,701	19,210,000	58,397,701

Source: American Petroleum Institute Data Book.

Estimated Crude Oil Reserves in 20 Leading Nations

Nation	(Add 000 bbl.) Reserves 1982(a)	(Add 000 bbl.) Reserves 1981	% of Free World Reserves 1982	% of Free World Reserves 1981	% of Total World Reserves 1982	% of Total World Reserves 1981
1. Saudi Arabia (b)	164,600,000	165,000,000	28.1	29.3	24.5	25.4
2. Kuwait (b)	64,480,000	64,900,000	11.0	11.5	9.6	10.0
3. U.S.S.R.	63,000,000	63,000,000	—	—	9.4	9.7
4. Iran	57,000,000	57,500,000	9.8	10.2	8.5	8.9
5. Mexico	56,990,000	44,000,000	9.7	7.8	8.5	6.8
6. Abu Dhabi	30,600,000	30,000,000	5.2	5.3	4.6	4.6
7. U.S.A.	29,785,000	29,000,000	5.1	5.2	4.4	4.5
8. Iraq	29,700,000	29,805,000	5.1	5.1	4.4	4.4
9. Libya	22,600,000	23,000,000	3.9	4.1	3.4	3.5
10. Venezuela	20,300,000	20,500,000	3.5	—	3.0	3.2
11. China	19,895,000	17,950,000	—	3.2	3.0	2.8
12. Nigeria	16,500,000	16,700,000	2.8	3.0	2.5	2.6
13. United Kingdom	14,800,000	14,800,000	2.5	2.6	2.2	2.3
14. Indonesia	9,800,000	9,500,000	1.7	1.7	1.5	1.5
15. Algeria	8,080,000	8,200,000	1.4	1.5	1.2	1.3
16. Norway	7,620,000	6,400,000	1.3	1.1	1.1	1.0
17. Canada	7,300,000	5,500,000	1.3	1.0	1.1	0.8
18. Qatar	3,434,000	3,585,000	0.6	0.6	0.5	0.6
19. Egypt	2,930,000	3,000,000	0.5	0.5	0.4	0.5
20. Malaysia	2,800,000	2,900,000	0.5	0.5	0.4	0.4
Total Free World	**584,864,150**	**565,629,712**	**100.0%**	**100.0%**	**87.2%**	**86.7%**
Total World	**670,709,150**	**651,929,712**	—	—	**100.0%**	**100.0%**

(a) Preliminary; (b) Saudi Arabia and Kuwait share the production from the Neutral Zone located between the two nations which had reserves of 6,260 mmb in 1981 and 6,500 mmb in 1980. These reserves are not included in the above figures.
Source: American Petroleum Institute Basic Data Book, January, 1983.

Crude Production in 20 Leading Nations

Nation	Production (Add 000 bbl.) 1981 Total	1981 b/d	1980 Total	1980 b/d	% of Free World Production 1981	% of Free World Production 1980	% of Total World Production 1981	% of Total World Production 1980
1. U.S.S.R.	4,303,350	11,790	4,282,200	11,700	—	—	21.1	19.7
2. Saudi Arabia (a)	3,513,125	9,625	3,524,946	9,631	23.1	21.3	17.2	16.2
3. United States	3,128,780	8,572	3,146,502	8,597	20.6	19.0	15.4	14.5
4. Mexico	843,880	2,312	920,124	2,514	5.6	5.6	4.1	4.2
5. Venezuela	769,420	2,108	2,390	2,165	5.1	4.8	3.8	3.6
6. People's Rep. of China	738,760	2,024	775,188	2,118	4.9	—	3.6	3.6
7. United Kingdom	661,015	1,811	753,228	2,058	4.4	4.5	3.2	3.5
8. Indonesia	585,640	1,604	708,942	1,937	3.9	4.3	2.9	3.3
9. United Arab Emirates	547,500	1,500	669,780	1,830	3.6	4.0	2.7	3.1
10. Nigeria	527,425	1,445	622,932	1,702	3.5	3.8	2.6	2.9
11. Iran	504,065	1,381	680,292	1,662	3.3	3.7	2.5	2.8
12. Canada	469,025	1,285	592,554	1,619	3.1	3.6	2.3	2.7
13. Libya	415,005	1,137	576,816	1,576	2.7	3.5	2.0	2.7
14. Iraq	362,445	993	521,184	1,424	2.4	3.1	1.8	2.4
15. Kuwait (a)	345,655	947	508,374	1,389	2.3	3.1	1.7	2.3
16. Algeria	293,095	803	373,320	1,020	1.9	2.3	1.4	1.7
17. Egypt	218,270	598	217,770	595	1.4	1.3	1.1	1.0
18. Norway	182,865	501	199,104	544	1.2	1.2	0.9	0.9
19. Argentina	181,040	496	193,248	528	1.2	1.2	0.9	0.9
20. Brunei-Malaysia	156,585	429	189,588	518	1.0	1.1	0.8	0.8
Total Free World	**15,181,445**	**41,593**	**16,559,304**	**45,244**	**100.0%**	**100.0%**	**74.5%**	**76.1%**
Total World	**20,373,570**	**55,818**	**21,765,654**	**59,469**	—	—	**100.0%**	**100.0%**

(a) Excluding Neutral Zone Production which was 544 mbd in 1980 and 370 mbd in 1981.
Source: American Petroleum Institute Data Book, January, 1983.

Canadian Oil Companies: How

Company	TOTAL BRANDED RETAIL OUTLETS	Number of Provinces where marketed	BRANDED SERVICE STATIONS								
			• Total branded service stations	Supplied directly	Supplied through jobbers & commission agents	Lessee/Dealer operated	Salary operated	Commission operated	100% Full service	100% Self-service	Service and self-service
BP Canada, Inc. (A)	1,640	2	1,640	1,400	240	1,044	—	596	1,381	257	2
Caloil, Inc. (B)	85	2	85	85	—	27	—	58	82	3	—
Chevron Canada Ltd. (B)	331	1	290	162	128	233	—	57	227	60	3
Federated Co-ops Ltd.	724	4	384	384	0	384	0	0	0	116	268
Gulf Canada Ltd. (B)	2,715	10	2,715	—	—	2,551	164	—	2,360	354	1
Husky Oil Ltd.	324	6	253	240	13	253	0	0	222	31	0
Imperial Oil Ltd. (B)	3,719	10	3,719	2,469	1,250	3,216	80	423	3,192	527	—
Irving Oil Ltd. (C)	—	—	—	—	—	—	—	—	—	—	—
Mohawk Oil Co. Ltd. (B)	257	5	257	257	—	191	59	7	204	50	3
Petro-Canada Exploration, Inc. (A)	1,379	11	1,379	1,185	194	1,179	30	138	1,093	276	10
Petrofina Canada, Inc. (B)	932	5	932	932	—	860	36	36	828	104	—
Shell Canada Ltd.	3,512	10	3,512	2,944	1,013	2,931	142	439	2,949	563	—
Spur Oil Ltd.	148	2	148	148	0	99	0	0	136	12	0
Sunoco, Inc.	872	3	872	872	0	662	201	9	662	210	0
Texaco Canada, Ltd.	2,769	10	2,769	2,769	0	2,256	0	513	2,256	507	6
Turbo Resources Ltd. (B)	304	5	293	218	63	187	1	83	294	10	—
Top Value Gasmarts	148	2	148	148	0	71	15	62	4	144	0
Ultramar Canada, Inc.	842	3	842	842	—	808	34	—	824	10	8

(A) BP Canada and Petro-Canada were merged on March 1, 1983; These data are for the calendar year ending Dec. 31, 1982; (B) Most recent information available; questionnaires were not returned or were incomplete; (C) Irving refuses to disclose any of its operating details.

Source: NPN questionnaires and 1982 Factbook.

Brand Names of Gasoline and Motor Oil

BP Canada, Inc. (A)

Gasolines	Motor Oils
BP Regular (r)	BP Autogol
BP No-Lead (xr)	BP Vanellus MCS3
BP Super No-Lead (xp)	BP Energol H.D.
	BP Vanellus C-3 Extra
	BP Extra Duty Motor Oil
	BP Super Engine Oil

Caloil Inc. (B)

Gasolines	Motor Oils
Calex (r)	
Calex Unleaded (xr&xp)	

Chevron Canada Ltd. (B)

Gasolines	Motor Oils
Chevron Regular (r&xr)	Chevron Special
Chevron Premium (p)	Chevron Supreme
Chevron Supreme (xp)	Chevron Custom
	Chevron Delo

Federated Co-Ops Ltd.

Gasolines	Motor Oils
Sonic (r&p) (xr)	HD 7
	D-MO
	Sonic Premium
	Multrex

Gulf Canada Ltd. (B)

Gasolines	Motor Oils
Gulf (r, xsp)	Gulf Premium Multigrade
	Super Premium Multigrade

Husky Oil Ltd.

Gasolines	Motor Oils
Husky (r)	Husky Super Duty
Husky (x)	Husky Heavy Duty
Husky (r, xr)	Husky HD Special
	Husky Stratolube
	Strato Plus

Imperial Oil Ltd. (B)

Gasolines	Motor Oils
Esso (r)	Essolube HD
Esso 2000 (xr)	Essolube HD X Plus
Esso Extra Unleaded (xp)	Essolube HD 3
	Esso Plus
	Esso Extra
	Uniflo

Mohawk Oil Co. Ltd. (B)

Gasolines	Motor Oils
Mohawk (r) (xr&xp)	Mohawk Premium
	Mohawk S. Duty
	Mohawk MultiGrade 10/30
	ATF Dextron
	Outboard Motor Oil

Murphy Oil Co. Ltd. (B)

Gasolines	Motor Oils
Spur (r) (xr&xp)	Spur Supreme
Gas (r) (xr&xp)	Spur HD
	Spur Regular
	Spur A.T.F.
	Spur 2 Stroke

Petro-Canada Exploration (A)

Gasolines	Motor Oils
Pacific 66 (r, xr&xp)	Dieseltonic
	Heavy Duty Commercial
	Heavy Duty Motor Oil
	Universal Motor Oil
	Multi-Motor Oil
	Multi-Plus
	DN-600 Fluid

Petrofina Canada Inc. (B)

Gasolines	Motor Oils
Fina Regular (r)	Regular M.O. Single Grade
Fina Lead-Free (xr)	Dieseltonic H.D. 30
Fina Super 100 Lead-Free (xp)	Universal MG 15W40
	Heavy Duty 10W 20-20W, 30, 40
	Multi 10W30
	Multi-Plus 5W30-10W40

Shell Canada Ltd.

Gasolines	Motor Oils
Shell (r)	Shell X-100
Shell Ultra (xp)	Shell Super Plus
Shell Super Non-leaded (xsp)	Shell Super Plus Arctic

Spur Oil Ltd.

Gasolines	Motor Oils
Spur (r, xr, xp)	Castrol Distributorship
Gas (r, xr, xp) †	Spur Supreme

Sunoco Inc.

Gasolines	Motor Oils
Sunoco 200 (r)	Dynalube, Pronto
Sunoco Leaded Blend (p)	Dieselube, Sunfleet
Sunoco Reg. Unleaded (xr)	Special
Sunoco Premium Unleaded (xp)	Cam 2
Sunoco ½ + ½ Unleaded (other)	
Pronto (r, xr, xp) †	

Texaco Canada Ltd.

Gasolines	Motor Oils
Fire Chief (r)	URSA E-D (various)
Lead-free Texaco (x)	URSA Super Plus
Sky Chief Lead Free (xsp)	Havoline
	URSA Premium SAE 15W-40
	Havoline Supreme SAE 10W-40, 5W-30
	URSA Super Flow 0W-30

Top Value Gasmarts

Gasolines	Motor Oils
Top Valu (r)	Burmak
Top Valu (rx)	Burmak
Top Valu (px)	Veedol
Payless (r +)	Castrol
Payless (r + x)	

Turbo Resources Ltd. (B)

Gasolines	Motor Oils
Turbo (x)	Turbo HD 1
Turbo No-lead (xr&xp)	Turbo SD 1
Turbo (px)	Turbo Multi-Service
	Turbo Supreme

Ultramar Canada Inc. (B)

Gasolines	Motor Oils
Ultramar (r&p)(xr&xp)	Ultralube
Ultramar (xsp)	Ultralube Monograde HD
XL (r, xr&xp)	Ultralube Super Multigrade
Arrow (r, xr&xp)	

(A) BP Canada, Inc., was acquired and merged into Petro-Canada Exploration, Inc., as of March 1, 1983. The data for BP and Petro-Canada are as of Dec. 31, 1982; (B) Latest information available. Questionnaires either were not returned or were incomplete.

Key

Gasoline

(r) Regular

(p) Premium

(sp) Super premium

(x) Unleaded

Motor oil . . . Brand names are listed with lowest price grade first

Distribution Is Organized

BRANDED JOBBERS				COMMISSION AGENTS				BULK PLANTS				TERMINALS			
SELLING . . .				SELLING . . .				COMPANY OPERATED				COMPANY OPERATED			
Total	Gasoline only	Fuel Oil only	Gasoline and fuel oil	Total	Gasoline only	Fuel oil only	Gasoline and Fuel oil	Total	Salary operated	Commission operated	Jobber operated	Total	Salary operated	Commission operated	Jobber operated
3	—	1	2	142	0	1	142	89	1	88	2	6	6	—	—
37	37	—	—	—	—	—	—	3	1	2	4	1	1	—	—
1	—	—	1	49	—	—	49	49	—	49	—	2	2	—	—
—	—	—	—	—	—	—	—	340	340	0	—	—	—	—	—
243	—	—	—	268	—	—	—	104	85	19	268	1	1	—	—
32	0	0	32	—	—	—	—	—	—	—	—	1	1	0	—
0	—	—	—	692	—	2	690	665	—	665	—	63	56	7	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	7	7	—	—	3	—	—	5	—	—	—	—
49	14	8	27	208	72	—	136	138	20	118	8	13	13	—	—
—	—	—	—	123	—	—	123	23	22	11	—	12	12	—	—
273	0	13	260	439 +	439	0	0	222	37	185	240	16	16	0	—
0	0	0	0	0	0	0	0	2	0	2	5	3	3	0	0
0	0	0	0	9	9	0	0	20	20	0	NA	7	7	0	NA
0	0	0	0	513	513	0	0	286	47	249	—	33	33	0	—
12	—	—	12	14	—	—	14	20	—	8	12	1	1	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	67	—	—	67	84	84	—	—	47	47	—	—

Branded Retail Outlets in Canada

Company	Total	No. of Provinces	Newfoundland	Nova Scotia	New Brunswick	Quebec	Ontario	Prince Edward Island	Manitoba	Saskatchewan	Alberta	British Columbia
BP Canada, Inc. (A)	1,640	2	—	—	—	633	1,007	—	—	—	—	—
Caloil, Inc. (B)	85	2	—	—	—	78	7	—	—	—	—	—
Chevron Canada Ltd. (B)	331	1	—	—	—	—	—	—	—	—	—	331
Federated Co-ops, Ltd.	724	4	—	—	—	—	—	—	132	427	91	24
Gulf Canada, Ltd. (B)	2,719	10	70	76	60	547	630	6	248	338	425	289
Husky Oil, Ltd. (C)	324	6	—	—	—	—	61	—	38	31	102	89
Imperial Oil, Ltd. (B)	3,719	10	192	203	175	759	867	45	267	357	389	465
Irving Oil, Ltd. (D)	—	—	—	—	—	—	—	—	—	—	—	—
Mohawk Oil Co., Ltd. (B)	257	5	—	—	—	—	5	—	16	16	140	80
Murphy Oil Co., Ltd. (B)	240	2	—	—	—	150	90	—	—	—	—	—
Petro Canada Explorations, Inc. (A)	1,379	11	—	136	91	423	321	13	33	44	116	196
Petrofina Canada, Ltd. (B)	932	5	—	129	87	403	302	11	—	—	—	—
Shell Canada, Ltd. (E)	3,512	10	—	119	131	844	1,236	30	310	209	287	341
Spur Oil Co., Ltd.	148	2	—	—	—	142	6	—	—	—	—	—
Sunoco, Ltd.	872	3	—	—	—	330	540	—	—	—	2	—
Texaco Canada, Ltd.	2,769	10	40	135	145	777	982	27	117	137	214	195
Turbo Resources, Ltd. (B)	304	5	—	—	—	—	81	—	15	14	112	29
Top-Valu Gasmarts	148	2	—	—	—	27	121	—	—	—	—	—
Ultramar Canada, Inc. (B)	842	3	185	—	—	420	237	—	—	—	—	—

(A) BP Canada was acquired by Petro-Canada and merged into it on March 1, 1983; These data are for the calendar year ended Dec. 31, 1982; (B) Most recent information available; questionnaires either were not answered or were incomplete; (C) Husky has 3 stations in the Yukon; (D) Irving refuses to disclose any of its operating details; (E) Shell has 5 stations in North West Territories.

Source: NPN questionnaires and 1982 Factbook.

Canadian Statistics

Canadian Motor Vehicle Registrations 1981

Province	Passenger Cars	Trucks	Buses	Motorcycles	Others	Total Vehicles	Trailers
Newfoundland	141,607	62,311	NA	5,564	NA	209,482	23,767
Prince Edward Island	48,564	17,402	424	1,801	205	63,396	7,073
Nova Scotia	350,407	143,018	1,447	19,750	1,067	515,689	49,698
New Brunswick	251,511	91,189	495	10,778	11,978	365,951	55,935
Quebec	2,378,851	320,815	16,944	131,020	31,197	2,878,827	295,271
Ontario	3,831,058	1,089,855	22,486	107,227	7,175	5,057,801	626,030
Manitoba	460,501	184,338	148	16,678	742	662,407	98,783
Saskatchewan	391,743	282,646	4,655	12,363	616	692,023	98,096
Alberta	1,216,340	469,432	7,506	55,640	NA	1,748,918	240,230
British Columbia	1,115,959	456,206	NA	44,449	NA	1,616,614	192,832
Yukon	6,702	10,837	NA	580	NA	18,119	4,091
Northwest Territories	6,145	9,938	105	1,021	46	17,255	2,594
Total	**10,199,388**	**3,137,987**	**54,210**	**406,871**	**53,026**	**13,851,482**	**1,694,400**

Source: Canadian Statistics, 1982.

New Motor Vehicle Sales

Year	Passenger Cars	Trucks & Buses	Total
1982	713,481	207,421	920,902
1981	904,195	286,687	1,190,882
1980	932,060	331,747	1,263,807
1979	1,003,008	393,394	1,396,402
1978	988,890	377,645	1,366,544
1977	991,398	353,561	1,344,959
1976	946,488	344,975	1,291,463

Source: Statistics Canada.

Automobiles Per Household (1982)

	Households (add 000)			
Province	1 Car	2 Cars	3 or More	Without
Newfoundland	76	27	4	41
Prince Edward Island	20	8	—	6
Nova Scotia	144	51	10	58
New Brunswick	113	41	10	42
Quebec	1,268	351	59	512
Ontario	1,514	727	165	597
Manitoba	185	74	19	75
Saskatchewan	164	91	23	49
Alberta	337	234	76	100
British Columbia	500	247	70	164
Total	**4,321**	**1,851**	**438**	**1,644**

Factory Sales of Car Batteries

	1982	Dollar Value	1981	Dollar Value
Original Equipment	confid.	...	846,253	...
Replacement	3,023,971	$109,013,649	2,764,319	$93,383,472

Factory Tires

	1980		1979	
	Units	Dollar Value (Add 000)	Units	Dollar Value (Add 000)
Passenger Cars Belted Bias	3,978,195	$108,644	5,509,920	$129,750
Passenger Cars N.E.S.	1,489,211	32,664	2,544,952	59,030
Light Trucks N.E.S.	1,434,584	74,009	1,896,221	78,987
Buses & Heavy Trucks	809,576	109,090	960,840	109,498
Farm Tractors/ Implements	575,705	55,764	600,874	52,674
Off-Highway N.E.S.	62,866	53,059	113,103	66,102
Total	**8,350,137**	**$433,230**	**11,625,910**	**$417,054**

N.E.S. = Not elsewhere specified.
Source: Statistics Canada.

Drivers Licenses 1981

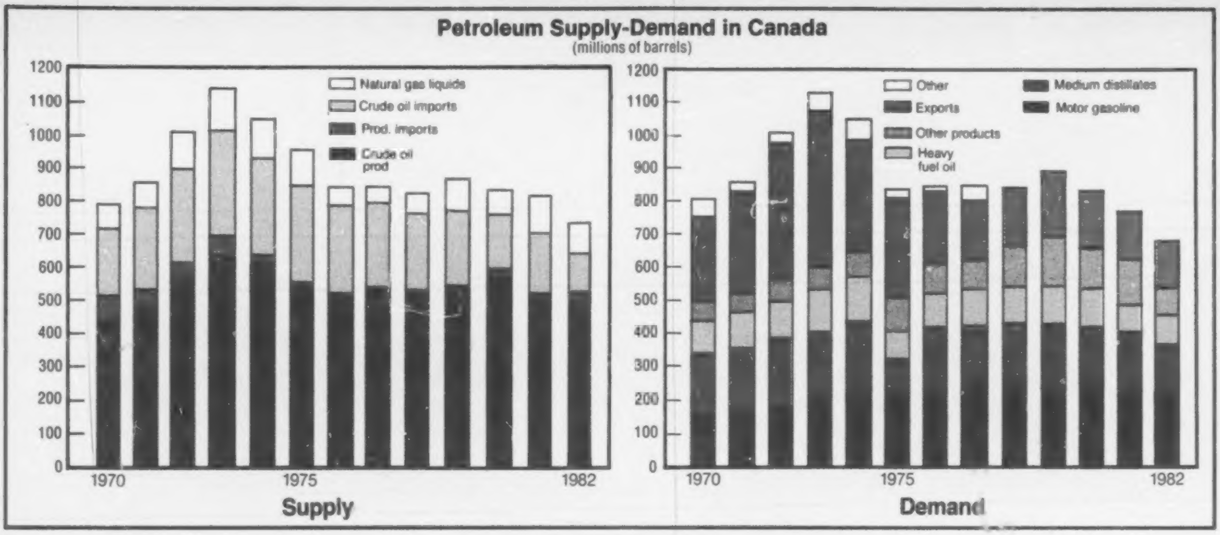
Newfoundland	252,628
Prince Edward Island	27,536
Nova Scotia	485,446
New Brunswick	370,506
Quebec	3,413,970
Ontario	5,123,177
Manitoba	572,095
Saskatchewan	583,049
Alberta	1,608,479
British Columbia	2,031,393
Yukon	not available
Northwest Territories	17,999
Total	**14,486,278**

Source: Statistics Canada.

Principal Heating Fuel 1982

	Households (Add 000)						
	Oil	Piped Gas	Bottled Gas	Electricity	Coal Coke	Wood	Total Households
Newfoundland	68	(a)	(a)	43	(a)	26	130
Prince Edward Island	28	(a)	(a)	(a)	(a)	7	31
Nova Scotia	196	(a)	(a)	16	5	34	203
New Brunswick	119	(a)	(a)	33	(a)	44	166
Quebec	986	170	—	471	(a)	69	1,068
Ontario	830	1,610	16	243	(a)	96	2,111
Manitoba	39	216	(a)	52	(a)	9	274
Saskatchewan	49	254	8	8	(a)	—	276
Alberta	11	713	10	(a)	9	(a)	584
British Columbia	204	563	7	92	4	52	692
Total	**2,530**	**3,527**	**53**	**960**	**12**	**344**	**5,534**

(a) Too small.
Source: Statistics Canada.


Petroleum Supply-Demand in Canada
(millions of barrels)

Refined Product Sales in 1982

Refined product sales in Canada totaled 682.2-million bbl. in 1982, down 11.5% from 1981 which, in turn, was down 7.8% from the 1980 total of 835.9-million bbl. Principal demand figures (see chart above) were gasoline, 215.8-million bbl.; medium distillates, 158.6-million bbl.; heavy oil, 66.0-million bbl.; other products, 90.5-million bbl.; and exports, 151.4-million bbl.

Principal supply figures were crude production, 498.8-million bbl.; product imports, 16.2-million bbl.; crude oil imports, 123.7-million bbl., and natural gas liquids production, 98.1-million bbl. Pentanes, included in NGL production, were 35.4-million bbl.

(Cubic Meters) (a)

	Aviation Gasoline	Motor Gasoline	Aviation Turbine Fuel	Kerosene & Stove Oil	Diesel Fuel Oil	Light Fuel Oil	Heavy Fuel Oil	Lubes & Greases
Newfoundland	3,641	588,137	211,413	61,606	412,143	398,122	382,312	12,806
Prince Edward Island	2,804	168,219	7,105	16,849	50,773	122,529	29,071	2,370
Nova Scotia	2,159	1,162,887	147,241	85,780	565,089	855,035	1,123,806	25,351
New Brunswick	3,459	958,719	57,930	58,031	337,539	564,482	1,580,359	19,036
Quebec	22,019	7,086,746	744,857	285,990	2,149,897	4,024,716	4,311,779	146,493
Ontario	40,584	11,982,596	1,214,372	200,568	3,237,253	3,392,297	1,476,162	358,328
Manitoba	21,240	1,500,169	190,568	96,562	725,988	117,984	175,636	32,823
Saskatchewan	11,816	1,905,017	91,537	141,715	1,038,701	164,685	17,049	49,622
Alberta	29,386	4,813,003	754,812	63,319	2,626,626	98,820	27,493	130,629
British Columbia	30,150	4,034,841	543,624	110,476	2,174,918	585,324	1,337,539	100,073
Yukon	4,348	46,809	7,185	35,762	28.748	57,424	—	1,622
Northwest Territories	8,634	44,593	89,100	50,726	203,293	60,145	20,762	3,236
Total 1982	**180,240**	**34,291,736**	**4,059,744**	**1,207,384**	**13,550,968**	**10,441,563**	**10,481,968**	**882,389**
Total 1981	**221,437**	**37,230,575**	**4,464,748**	**1,219,091**	**14,739,845**	**11,414,360**	**15,621,291**	**1,034,776**

(a) To translate into imperial bbl., divide cubic meters in each case by 158.9; an imperial bbl. equals 35 imperial gal.; an imperial gal. equals 1.2 U.S. gal.
Source: Statistics Canada.

Gasoline Sales and Premium Ratios

	(1977) (a)		
		(Add 000)	
Metropolitan Areas	Outlets	Gasoline Sales (gal.)	Population (b)
Montreal	1,575	659,744	2,798
Toronto/Hamilton	1,549	709,342	2,741
Regina	82	50,965	520
Calgary	226	156,591	151
Ottawa/Hull	297	169,241	444
Winnipeg	251	146,793	626
Edmonton	234	171,545	570
Vancouver	447	283,725	529
Total	**4,660**	**2,347,946**	**9,516**

(a) These are the most recent figures available; (b) As of June 1974, most recent data available.
Source: Statistics Canada.

	Premium (a)	
Province	December 1982	December 1981
Alberta and Northwest Territories	5.9%	7.1%
British Columbia and Yukon	9.7	10.3
Manitoba	3.5	4.0
Maritimes	8.8	10.4
Newfoundland	6.1	6.8
Ontario	11.4	12.5
Quebec	16.2	18.8
Saskatchewan	2.9	3.2
Total Canada	**10.6%**	**11.9%**

(a) Contains leaded and unleaded premium.
Source: Ethyl Corp., Petroleum Chemicals Div.

LP-Gas Sales Flatten Out in '81

Only a small increase in propane consumption by internal combustion engines kept the 1981 sales pattern for LP-Gas from being a complete washout. Propane sales were up 7.8% but since the volume isn't all that great in relation to other LP-G uses, they were interesting but not necessarily exciting or trendworthy. Total LP-G sales in 1981 were just over 18-billion gal., down 2.9% from the preceding year, which, in turn, had been under 1979's total by 3.1%.

LPG Sales Trend

Major Domestic Markets
(Add 000,000 gal.)

	Total U.S. sales		Residential-commercial		Chemical		Internal combustion		Industrial		All other uses	
Year	Vol.	% Change	Vol.	% Change	Vol.	% Change	Vol.	% Change	Vol.	% Change	Vol.	% Change
1981 (a)	18,061	-2.9	4,232	-3.2	7,680	-1.6	551	7.8	2,096	-5.5	3,503	-5.3
1980 (a)	18,604	-3.1	4,373	-8.2	7,808	-4.3	508	14.4	2,217	5.3	3,698	-1.0
1979 (a)	19,202	27.8	4,764	-31.5	8,160	129.0	444	-55.3	2,105	57.1	3,728	71.6
1978	15,023	-3.1	6,954	-3.0	3,563	-0.4	993	-13.3	1,340	28.4	2,172	-15.6
1977	15,508	-3.2	7,169	-2.0	3,578	-12.4	1,145	-2.1	1,044	—	2,573	7.5
1976	16,013	5.3	7,313	4.2	4,085	-2.1	1,170	—	1,052	-2.8	2,394	35.8
1975	15,200	-6.8	7,020	-2.9	4,172	-23.0	1,162	-11.3	1,082	1.2	1,763	38.3
1974	16,306	-5.0	7,231	-7.8	5,422	-9.0	1,310	-7.0	1,069	2.4	1,275	46.2
1973	17,812	-1.1	7,846	-5.0	5,960	1.0	1,409	-4.7	1,095	-2.3	872	41.1
1972	17,373	12.1	8,253	7.6	5,898	15.1	1,479	11.7	1,124	23.7	618	30.7
1971	15,498	1.5	7,668	1.3	5,124	2.4	1,324	—	909	1.3	473	1.3
1970	15,271	26.6	7,569	41.6	5,003	24.8	1,336	11.9	897	32.1	467	125.6
1965	11,434	33.7	5,346	26.5	4,008	54.6	1,194	33.0	679	13.9	207	-23.0
1960	8,579	40.1	4,225	50.8	2,593	36.5	898	37.7	596	13.7	269	9.3
1955	6,123	75.8	2,801	38.5	1,899	122.6	652	401.5	524	241.6	246	-7.7
1950	3,433	—	2,022	—	853	—	130	—	217	—	260	—

(a) This data is not comparable to the pre-1979 data appearing above.
Source: Sales of LPG and Ethane in 1981, Petroleum Supply Annual, Department of Energy, July, 1982.

McGill INCORPORATED

Gasoline Vapor Recovery Units

McGill Adsorption/Absorption vapor recovery systems are available in thirteen different models, each with standard modifications available to fit your particular needs. Developed and patented by McGill, the Adsorption/Absorption technique is the simplest and most economical system available today. Other light hydrocarbon vapor recovery systems are also available.

Gasoline Vapor Disposal Units

McGill vapor disposal units provide optimum safety, maximum emission reduction and meet all EPA requirements for the disposal of gasoline vapors displaced during loading. Loading rates from 300 GPM to 70,000 GPM are easily handled. Vapor disposal units for benzene or other hydrocarbons are also available.

McGILL INCORPORATED

P.O. Box 9667 • Tulsa, OK 74157
918-445-2431 • Telex 79-6434

THE TECHNOLOGY PEOPLE

Sales of Liquid Petroleum Gases, by Use

	Residential and Commercial		Internal Combustion Engine Fuel		Chemical and Industrial		Total (a)	
P.A.D. District and State	1981	1980	1981	1980	1981	1980	1981	1980
District 1								
Connecticut	29,214	29,421	1,641	1,628	12,089	14,979	51,946	51,909
Delaware	22,400	18,514	W	1,532	6,160	W	33,964	110,647
Florida	233,281	219,085	19,664	17,775	101,597	W	385,932	370,742
Georgia	165,353	W	13,264	8,376	20,638	W	265,529	257,479
Maine	17,049	19,535	W	1,013	8,425	W	27,778	30,227
Maryland and District of Columbia	45,119	W	W	2,928	W	13,461	78,531	71,405
Massachusetts	35,226	33,349	3,625	2,918	8,367	W	98,408	73,516
New Hampshire	28,960	29,072	631	W	5,694	6,441	42,463	44,278
New Jersey	46,731	38,391	12,630	W	270,755	W	338,643	255,369
New York	131,813	W	9,977	8,706	45,940	W	202,786	194,784
North Carolina	137,573	140,625	8,726	5,564	30,663	W	292,940	276,006
Pennsylvania	90,290	W	14,672	16,272	167,839	W	298,663	250,951
Rhode Island	5,991	5,672	W	982	2,488	2,349	10,796	10,146
South Carolina	77,126	74,608	4,371	3,676	7,656	W	108,716	W
Vermont	18,816	17,590	W	256	W	2,284	24,324	23,039
Virginia	68,944	74,421	6,184	5,218	14,789	W	114,763	W
West Virginia	19,470	19,540	2,023	1,566	104,019	W	126,339	118,809
Total	**1,173,378**	**1,134,575**	**104,915**	**90,941**	**825,401**	**771,756**	**2,502,521**	**2,357,531**
District 2								
Illinois	209,041	200,178	22,858	19,648	648,550	W	1,336,804	1,342,506
Indiana	162,859	165,596	W	9,689	51,774	W	281,985	275,369
Iowa	177,950	192,202	W	3,791	69,402	W	384,621	386,291
Kansas	80,652	102,908	14,972	12,201	122,194	W	290,308	290,718
Kentucky	92,446	101,919	W	W	203,842	232,349	308,135	353,619
Michigan	146,298	166,749	W	14,181	22,100	16,922	216,690	232,994
Minnesota	131,737	144,727	9,348	7,466	21,993	W	231,629	266,239
Missouri	229,979	W	W	7,483	14,703	16,825	286,409	315,519
Nebraska	64,805	W	13,124	W	4,851	W	156,456	155,631
North Dakota	32,268	25,238	7,535	1,272	W	5,271	56,441	45,046
Ohio	137,388	126,312	W	24,901	281,963	W	1,568,279	1,531,116
Oklahoma	93,338	86,909	20,793	26,007	66,643	73,901	278,127	310,884
South Dakota	45,803	57,584	3,410	7,614	W	931	69,192	87,508
Tennessee	37,922	W	5,647	6,702	8,465	W	58,914	96,391
Wisconsin	133,640	147,380	11,972	9,249	10,078	15,847	191,773	208,808
Total	**1,776,326**	**1,907,925**	**182,144**	**170,494**	**1,532,573**	**1,388,543**	**5,715,763**	**5,898,639**
District 3								
Alabama	134,227	W	8,257	5,136	W	9,141	179,477	171,182
Arkansas	85,923	W	13,587	W	W	15,676	146,331	167,662
Louisiana	56,627	56,691	W	W	2,290,819	W	2,367,374	1,828,889
Mississippi	103,297	108,753	W	16,819	24,959	W	176,356	196,949
New Mexico	40,534	59,728	7,831	W	54,560	48,241	121,314	162,936
Texas	308,587	302,961	82,767	W	4,650,751	5,656,217	5,576,297	6,565,445
Total	**729,195**	**761,890**	**137,197**	**136,983**	**7,041,738**	**7,504,558**	**8,567,149**	**9,093,063**
District 4								
Colorado	103,295	W	6,511	W	13,099	15,649	146,507	133,872
Idaho	14,509	15,612	W	2,572	3,952	4,283	34,268	34,365
Montana	24,878	40,948	3,278	W	1,880	W	39,930	62,488
Utah	18,972	17,241	W	1,599	10,835	W	60,104	44,998
Wyoming	35,547	31,818	7,400	8,095	11,708	W	78,850	70,215
Total	**197,201**	**W**	**23,410**	**W**	**41,474**	**32,715**	**359,659**	**345,938**
District 5								
Alaska	W	W	—	W	2,428	W	5,900	6,602
Arizona	31,308	32,443	9,149	8,630	W	3,524	49,563	54,967
California	217,631	243,074	67,749	57,711	298,804	W	666,488	664,045
Hawaii	W	W	W	W	W	W	51,993	54,400
Nevada	19,960	21,104	W	W	2,408	2,176	32,488	30,446
Oregon	31,078	28,339	8,782	7,158	W	W	46,966	46,821
Washington	33,584	30,952	13,147	10,135	6,850	W	60,850	51,430
Total	**355,638**	**W**	**163,055**	**W**	**334,726**	**327,794**	**916,248**	**908,711**
U.S. Total	**4,231,736**	**4,372,576**	**550,721**	**508,011**	**9,775,912**	**10,025,366**	**18,061,340**	**18,603,882**

(W) Data withheld to avoid disclosing individual company data; (a) Total includes gas utility and miscellaneous uses.
Source: Petroleum Supply Annual, 1981, Department of Energy, July, 1982.

Motor Oil Outlook: A New Review

Do-it-yourselfers and mass merchandisers are increasing their domination of the motor oil market, according to NPD Research, Inc., of Port Washington, N.Y., the ninth largest market research company in the U.S.

As indicated in the tables at the right, do-it-yourselfers now account for about 70% of motor oil purchases. At the same time, the traditional service station role has eroded from 26% only four years ago to a little less than 21% in 1982.

Mass merchandisers enhanced their standing as distributors of motor oil by four percentage points so that as of 1982, six out of 10 purchases of motor oil were made in discount stores, department stores, supermarkets, drug stores and other non-traditional outlets.

Prices unquestionably were the key factors in the growth of the mass merchandiser. In 1982, for example, discounters sold motor oil for an average of $1 a quart. Service stations charged an average $1.59 and the other traditional dispensers, like car dealers and auto supply stores, sold theirs for $1.36 a quart.

Again, an economic key: Motor oil prices increased only 2¢ a quart at the mass merchandisers in 1982 versus 1981. But they went up an average of 11¢ a quart at service stations. The industry average rose from $1.17 in 1981 to $1.22 in 1982.

NPD Research also showed that the annual quarts purchased by the average vehicle-operating family declined from 19.0 quarts in 1979 to 13.6 quarts in 1982. Although no explanation was offered, it could be assumed that the decreased consumption related to the lower rate of travel by motorists and their gasoline consumption.

The Market Share Battle

	Avg. Retail Price			Market Shares	
Retail Segment	**1982**	**1981**	**Primary Market**	**1982**	**1981**
Mass Merchandisers (discount stores, department stores, supermarkets, drug stores and others)	$1.00	$0.98	DIY (a)	59%	57%
Service Stations	1.59	1.48	Reliers (b)	21	23
Other Traditional Outlets (car dealers, auto supply stores, garages and tire stores)	1.36	1.23	Reliers & DIY	20	19
Total Industry	**$1.22**	**$1.17**			

(a) Do-it-yourselfers accounted for 71% of the motor oil purchases in 1982; (b) Motorists who rely on service stations, car dealers, etc., to change their oil.

The Channels of Distribution (a)

	1982	1981	1980	1979
Service Stations	20.8%	23.4%	25.7%	26.0%
Discount Stores	30.1	29.2	29.3	31.4
Department Stores	10.0	7.6	8.2	8.1
Supermarket/Drug Stores	9.2	9.3	8.6	5.8
Others	10.1	11.3	10.1	10.6
Auto Supply Stores	9.8	10.5	9.7	10.3
Tire Store/Garages	5.2	4.3	5.3	5.2
Car Dealers	4.8	4.4	3.1	2.6

(a) By quarts by place of purchase.

How the Oil Is Used

	1982	1981	1980	1979
Oil Change	48%	46%	45%	42%
Add Oil	18	20	20	19
Future Use	13	14	16	18
Duplicate Use	21	20	19	21

Who Buys the Most of It

	1982	1981	1980	1979
Carried Out by Purchaser (installed at some other place) (a)	71%	70%	69%	72%
Installed Where Bought (b)	29	30	31	28

(a) Generally considered to be the do-it-yourselfer; (b) generally considered to be the "relier," i.e., depending on service man for performance.

Purchases by Weight of Motor Oil (a)

	1982	1981	1980	1979
10W-30	20%	20%	23%	26%
10W-40	50	47	51	50
20W-50	3	3	2	2
30W	13	14	14	13
Longlife/Friction Reducing	7	8	(b)	(b)
Other	7	8	10	9

(a) Excludes not reported; (b) Data not collected.

Dollars Spent per Average Family

	1982	1981	1980	1979
Dollars Spent (a)	$16.56	$17.10	$16.91	$16.69
Average Price Paid per Quart	1.22	1.17	1.08	0.88
Average Quarts per Transaction	4.10	4.10	4.40	4.60
Annual Quarts Purchased	13.60	14.70	15.70	19.00

(a) Per vehicle operating family.

Source: The Petroleum Marketing Index (NPD Research, Inc.), April, 1983.

Lube Oil Sales Projections

U.S. Demand for Automotive Lube Base Oils

	(Add 000,000)				
Year	Engine Oils	Hydraulic Fluids	Other Lubes	Total (gal.)	Total (bbl.)
1990	898	183	45	1,126	26.8
1985	908	170	43	1,121	26.7
1982	860	161	43	1,063	25.3
1981	905	165	44	1,114	26.5
1980	912	190	47	1,149	27.4
1979	1,032	224	54	1,310	31.2
1978	981	220	52	1,253	29.8
1977	906	205	90	1,201	28.6
1976	884	200	88	1,172	27.9

Source: Robert G. Stewart, Sun Refining and Marketing Co., January, 1983.

U.S. Demand for Lubricating Base Oils

	(Add 000,000)				
Year	Total	Automotive Lubes	Industrial Lubes	Process Oils	Losses/ Minor Prod.
1990 ...	59.9	26.8	20.1	8.9	4.1
1985 ...	56.8	26.7	18.8	7.7	3.6
1982 ...	51.1	25.3	15.9	6.5	3.4
1981 ...	55.8	26.5	18.6	7.1	3.6
1980 ...	54.4	27.4	19.0	8.0	—
1979 ...	61.4	31.2	21.4	8.8	—
1978 ...	58.8	29.8	20.6	8.4	—
1977 ...	57.1	28.6	21.1	7.4	—
1976 ...	55.3	26.2	20.5	8.6	—

Source: Robert G. Stewart, Sun Refining and Marketing Co., January, 1983.

Past and Projected Demand for Finished Lubes

	(Millions of gal.)				
Automotive Oils	**1981**	**1982**	**1983**	**1985**	**1990**
On-Road Engine Oil	805	773	794	811	772
Off-Road Engine Oil ...	235	215	223	233	260
Hydraulic Oil	190	185	187	196	210
Gear Oil	50	47	49	50	53
Total	**1,280**	**1,220**	**1,253**	**1,290**	**1,295**

	(Millions of gal.)				
Industrial Oils	**1981**	**1982**	**1983**	**1985**	**1990**
General Lubes	475	418	432	494	525
Metalworking Oil ...	190	152	157	190	200
Industrial Engine Oil	152	137	144	152	163
Process Oil	310	281	297	330	385
Total	**1,127**	**988**	**1,030**	**1,166**	**1,273**

Source: Robert G. Stewart, Sun Refining and Marketing Co., January, 1983.

Automotive Sales

	(Add 000 gal.)	
	1981	**1980**
SAE J-193a, Engine Oils		
Monograded	478,242	522,212
Multi-graded	496,116	479,560
Sub Total	**974,358**	**1,001,772**
Non SAE J-183a, Engine Oils		
Aircraft	11,523	11,324
Gasoline Fueled Two-stroke	11,935	13,105
Sub Total	**23,458**	**24,429**
Transmission and Hydraulic Fluids		
Automatic Trans. Fluids	125,701	133,064
Universal Tractor Fluids	39,918	41,916
Shock Absorber/Steering Fluid ..	8,944	7,750
Other (Manual Trans., etc.)	3,883	7,001
Sub Total	**178,446**	**189,731**
Gear Lubricants		
GL-4 Less	7,202	5,983
GL-5 and GL-6	40,470	42,892
Sub Total	**47,672**	**48,875**
Total Automotive Sales	**1,223,934**	**1,265,216**

Source: National Petroleum Refiners Assn., "1982 Report on U.S. Lubricating Oil Sales."

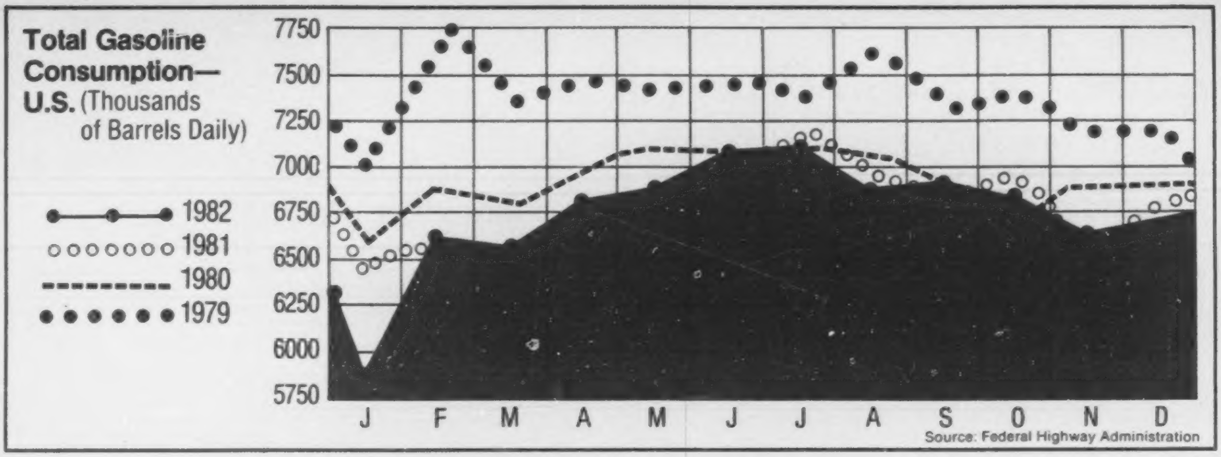
Industrial Sales

	(Add 000 gal.)	
	1981	**1980**
General Industrial Lubricants		
Hydraulic Oils	212,932	214,055
Gear Oils	38,775	41,099
Other Specified	153,058	162,523
Other Unspecified	3,201	2,134
Sub Total	**407,966**	**419,811**
Industrial Engine Oils		
Railroad Diesel	58,368	61,271
Marine	51,269	54,560
Natural Gas	42,361	41,209
Sub Total	**151,998**	**157,040**
Metalworking		
Specified	87,268	86,973
Unspecified	2,034	3,828
Sub Total	**89,302**	**90,801**
Process Oils		
Specified	267,950	284,780

Source: National Petroleum Refiners Assn., "1982 Report on U.S. Lubricating Oil Sales."

	(Add 000 gal.)		
	1981	**1980**	**1979**
Total Industrial Lube Sales	**937,216**	**958,849**	**1,043,524**
Total Automotive Lube Sales	**1,223,934**	**1,265,216**	**1,391,418**
GRAND TOTAL	**2,161,150**	**2,224,065**	**2,434,942**

Source: National Petroleum Refiners Assn., "1982 Report on U.S. Lubricating Oil Sales."



Total Gasoline Consumption—U.S. (Thousands of Barrels Daily)

Source: Federal Highway Administration

Gasoline Consumption by States

(Includes consumption on-highway, off-highway and other uses.)

	1982 Rank	(Add 000 gal.) 1982 (a)	1981 (b)	% Chng. '82 vs. '81
Alabama	23	1,828,876	1,849,225	−1.1
Alaska	50	235,112	212,804	10.5
Arizona	28	1,341,613	1,344,438	−0.2
Arkansas	33	1,123,466	1,137,998	−1.3
California	1	10,660,534	10,842,862	−1.7
Colorado	26	1,508,950	1,506,429	0.2
Connecticut	29	1,284,966	1,296,048	−0.9
Delaware	48	282,463	290,581	−2.8
District of Columbia	51	165,653	171,082	−3.2
Florida	4	4,900,102	4,845,057	−1.1
Georgia	11	2,818,366	2,809,969	0.3
Hawaii	47	349,098	347,848	0.4
Idaho	40	458,513	471,054	−2.7
Illinois	5	4,522,361	4,598,012	−1.6
Indiana	14	2,419,331	2,616,773	−7.5
Iowa	27	1,420,298	1,474,522	−3.7
Kansas	30	1,234,055	1,268,857	−2.7
Kentucky	24	1,717,556	1,734,083	−1.0
Louisiana	17	2,145,094	2,103,397	2.0
Maine	38	505,620	497,749	1.6
Maryland	21	1,888,873	1,919,423	−1.6
Massachusetts	16	2,235,986	2,249,956	−0.6
Michigan	8	3,795,313	4,014,699	−5.5
Minnesota	19	1,936,361	1,929,699	0.3
Mississippi	32	1,151,872	1,208,384	−4.7
Missouri	12	2,494,873	2,528,616	−1.3

	1981 Rank	(Add 000 gal.) 1982 (a)	1981 (b)	% Chng. '82 vs. '81
Montana	41	453,939	463,035	−2.0
Nebraska	36	792,579	798,518	−0.7
Nevada	39	490,270	508,535	−3.6
New Hampshire	44	393,276	398,692	−1.4
New Jersey	9	3,172,525	3,142,481	1.0
New Mexico	37	744,599	742,486	0.3
New York	3	5,617,353	5,674,946	−1.0
North Carolina	10	2,842,968	2,874,700	−1.1
North Dakota	42	403,067	408,449	−1.3
Ohio	6	4,501,134	4,766,658	−5.6
Oklahoma	20	1,929,207	1,922,403	0.4
Oregon	31	1,211,110	1,271,001	−4.7
Pennsylvania	7	4,370,932	4,476,479	−2.4
Rhode Island	45	360,833	368,524	−2.1
South Carolina	25	1,515,808	1,529,196	−0.9
South Dakota	43	397,401	403,635	−1.5
Tennessee	15	2,355,395	2,388,466	−1.4
Texas	2	8,201,704	8,149,252	0.6
Utah	35	805,579	709,070	13.6
Vermont	49	236,905	234,114	1.2
Virginia	13	2,493,638	2,530,673	−1.5
Washington	22	1,851,127	1,872,364	−1.1
West Virginia	34	810,848	804,632	0.8
Wisconsin	18	1,982,060	2,067,800	−4.1
Wyoming	46	359,425	375,068	−4.2
U.S. Total		**102,718,987**	**104,150,406**	**1.4%**

(a) Preliminary: (b) Revised and final.
Source: Federal Highway Administration, monthly reports and NPN estimates for Idaho and Kansas for December.

. . . and by Types of Vehicles

	Passenger Vehicles						
		Buses					
	Cars and Motorcycles	Commercial	School	All Buses	Total Passenger	Trucks and Combinations	All Motor Vehicles
Fuel consumed (million gal.)	72,080 (a)	711	376	1,087	73,166	41,287	114,453
Average per vehicle (gal.)	557 (b)	6,624	861	1,998	564	1,198	697
Average miles per gal.	15.71 (c)	4.98	7.65	5.90	15.56	9.97	13.55
Vehicles registered (thousands)	129,293 (d)	107	437	544	129,837	34,451	164,288
Average miles traveled	8,758 (e)	32,987	6,585	11,795	8,771	11,945	9,436
Average miles traveled (millions):							
Main rural roads	271,621	787	841	1,628	273,249	133,016	406,265
Local rural roads	184,911	453	943	1,396	186,307	94,327	280,634
Urban streets	675,978	2,300	1,091	3,391	679,189	184,183	863,372
Total travel 1981 (f)	**1,132,330**	**3,540**	**2,875**	**6,415**	**1,138,745**	**411,526**	**1,550,271**
Total travel 1980 (g)	**1,129,887**	**3,500**	**2,900**	**6,400**	**1,136,287**	**384,570**	**1,520,857**

(a) 71,719,694,000 for passenger cars, 360,000,000 for motorcycles; (b) 581 for passenger cars, 62 for motorcycles; (c) 15.54 mpg for passenger cars, 50.00 mpg for motorcycles; (d) 123,461,507 for passenger cars, 5,831,132 for motorcycles; (e) 9.026 for passenger cars, 3,087 for motorcycles; (f) 1,114,330,000 for passenger cars, 18,000,000 for motorcycles; (g) 1,111,887,000 for passenger cars, 18,000,000 for motorcycles.
Source: Federal Highway Administration, Table 5581-14 (VM-1), October, 1982.

State Gasoline Consumption by Rank

	1982 Rank	1981 Rank	(Add 000 gal.) 1982 Total
California	1	1	10,660,534
Texas	2	2	8,201,704
New York	3	3	5,617,353
Florida	4	4	4,900,102
Illinois	5	6	4,522,361
Ohio	6	5	4,501,134
Pennsylvania	7	7	4,370,932
Michigan	8	8	3,795,313
New Jersey	9	9	3,172,525
North Carolina	10	10	2,842,968
Georgia	11	11	2,818,366
Missouri	12	14	2,494,873
Virginia	13	13	2,493,638
Indiana	14	12	2,419,331
Tennessee	15	15	2,355,395
Massachusetts	16	16	2,235,986
Louisiana	17	18	2,145,094
Wisconsin	18	17	1,982,060
Minnesota	19	19	1,936,361
Oklahoma	20	20	1,929,207
Maryland	21	21	1,888,873
Washington	22	22	1,851,127
Alabama	23	23	1,828,876
Kentucky	24	24	1,717,556
South Carolina	25	25	1,515,808
Colorado	26	26	1,508,950
Iowa	27	27	1,420,298
Arizona	28	28	1,341,613
Connecticut	29	29	1,284,966
Kansas	30	31	1,234,055
Oregon	31	30	1,211,110
Mississippi	32	32	1,151,872
Arkansas	33	33	1,123,466
West Virginia	34	34	810,848
Utah	35	36	805,579
Nebraska	36	35	792,579
New Mexico	37	37	744,599
Maine	38	39	505,620
Nevada	39	38	490,270
Idaho	40	40	458,513
Montana	41	41	453,939
North Dakota	42	43	403,067
South Dakota	43	42	397,401
New Hampshire	44	46	393,276
Rhode Island	45	45	360,833
Wyoming	46	44	359,425
Hawaii	47	47	349,098
Delaware	48	48	282,463
Vermont	49	49	236,905
Alaska	50	50	235,112
District of Columbia	51	51	165,653

Source: Federal Highway Administration, Monthly Reports.

Underground Leak Problems??

Oil Recovery Systems specializes in equipment and techniques for the containment and clean up of gasoline and other petroleum products from leaking tanks and piping. Our systems have been involved in thousands of service station recoveries as well as scores of refinery and storage terminal spills.

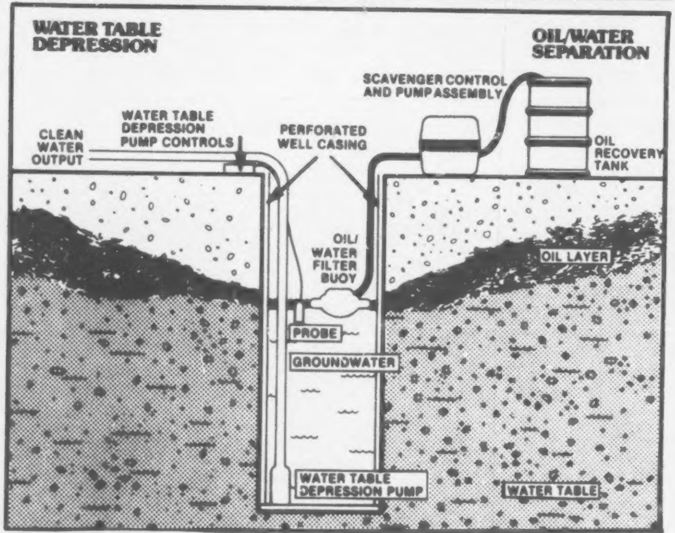
We offer a complete line of equipment, including the Scavenger Systems, Water Table Depression Pumps, Soil Venting Systems, Liquid Samplers, and Water Purification Systems. Our systems are designed to be explosion proof and fully automatic, providing the following advantages over traditional clean-up methods:

1. Low cost, fully automatic, minimizing labor costs and vacuum truck usage.
2. Ability to recover clean, water-free product that can be reblended with other fuel and reused.
3. Explosion-proof and intrinsically safe design provides for a safe cleanup.
4. Effective containment of the contaminating oil, preventing the problem from spreading.
5. Eliminates the need for costly disposal of oily-water mixtures.

In addition to manufacturing equipment dedicated to cleaning up underground oil spills, we maintain throughout the United States a series of branch offices staffed with specially trained hydrogeologists, geologists, and field engineers. These experienced professionals offer complete pollution assessment and abatement services.

We can design an efficient recovery system and if necessary implement it, utilizing our nationwide network of distributors and service companies.

So if you have an underground leak problem at one of your service stations, please contact us. We can supply you with the right equipment for your particular problem; and if you wish, we can furnish the necessary geological consulting and engineering services to provide you with a safe and efficient clean up.



OIL RECOVERY SYSTEMS, INC.

SALES OFFICE: 299 Second Avenue, Needham (Heights), Mass 02194
(617) 449-5222

Gasoline Octanes, U.S. Service Stations

		Regular grade [1]			Premium grade [2]			Unleaded grade		
Year	Season	Rsh.	Mtr.	(R+M)*/2	Rsh.	Mtr.	(R+M)*/2	Rsh.	Mtr.	(R+M)*/2
1982	Summer	93.0	85.0	89.0	—	—	—	91.9(a) 96.8(b)	82.8(a) 86.6(b)	87.3(a) 91.7(b)
1981-82	Winter	92.7	85.1	88.9	98.1	87.8	93.0	91.8(a) 96.6(b)	82.9(a) 86.8(b)	87.4(a) 91.7(b)
1981	Summer	92.8	85.1	89.0	—	—	—	91.9(a) 96.3(b)	83.0(a) 86.2(b)	87.4(a) 91.3(b)
1980-81	Winter	92.8	85.4	89.1	97.3	89.2	93.3	91.9(a) 96.1(b)	83.3(a) 86.5(b)	87.6(a) 91.4(b)
1980	Summer	96.2	85.2	88.9	97.0	88.6	92.8	92.1(a) 96.1(b)	83.4(a) 86.4(b)	87.8(a) 91.6(b)
1979-80	Winter	92.5	85.5	89.0	97.2	89.3	93.2	92.1(a) 97.1(b)	83.7(a) 87.0(b)	87.9(a) 92.1(b)
1979	Summer	92.8	85.7	89.3	97.6	89.8	93.7	93.0	84.1	88.6
1978-79	Winter	93.2	85.9	89.6	98.0	90.3	94.2	93.1	84.3	88.7
1978	Summer	93.2	85.7	89.5	98.2	90.4	94.3	93.0	83.9	88.5
1977-78	Winter	93.2	85.7	89.5	98.8	91.0	94.9	92.9	83.9	88.4
1977	Summer	93.2	85.9	89.6	98.7	91.2	95.0	92.9	83.9	88.5
1976-77	Winter	93.2	86.1	89.7	98.8	91.4	95.1	92.6	84.1	88.4
1976	Summer	93.3	86.0	89.6	98.9	91.4	95.2	92.4	83.9	88.2
1975-76	Winter	93.4	86.0	89.7	98.9	91.4	95.2	92.3	84.0	88.2
1975	Summer	93.4	86.0	89.7	98.9	91.4	95.2	92.1	83.9	88.0
1974-75	Winter	93.4	86.1	89.9	98.9	91.6	95.3	92.3	84.0	88.2
1974	Summer	93.4	85.9	89.7	98.9	91.5	95.2			
1973-74	Winter	93.4	86.0	89.7	99.1	91.7	95.4			
1973	Summer	93.5	86.1	89.8	99.3	91.9	95.6			
1972-73	Winter	93.9	86.4	90.2	99.6	92.2	95.9			
1972	Summer	94.1	86.4	99.8	90.3	92.2	96.0			

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*Antiknock index.

(1) Below 93.0 octane; (2) 93.0 octane and above.

(a) Unleaded antiknock (octane) index data below 90. (b) Unleaded antiknock (octane) index data 90 and above.

Source: Motor Gasolines, Summer 1982, Bartlesville (Okla.) Energy Technology Center Department of Energy, May, 1983.

Octane Numbers Vary Regionally

Minor slippage in the octane numbers of leaded and unleaded gasolines are shown in the winter 1981-82 and the summer 1982 evaluation reports published by the Department of Energy, Bartlesville, Okla., Technology Center. As noted above, the government introduced a new concept for leaded gasolines in 1981, a below 93 index and an above 93 index. The government uses two methods to determine octane numbers—research and motor. These are combined and divided by two (R plus M divided by 2) to reach the number that is posted on service station pumps.

	Unleaded Octane Number						Leaded Octane Number (X)					
	Index Below 90			Index Above 90			Index Below 93			Index Above 93		
	Rsch.	Mtr.	(R+M) ÷2	Rsch.	Mtr.	(R+M) ÷2	Rsch.	Mtr.	(R+M) ÷2	Rsch.	Mtr.	(R+M) ÷2
Northeast	92.1	82.2	87.2	96.9	86.6	91.8	93.1	85.3	89.2	—	—	—
Mid-Atlantic Coast	92.2	82.7	87.5	96.9	86.7	91.8	93.2	85.2	89.3	—	—	—
Southeast	91.5	82.4	87.0	96.8	86.7	91.8	93.0	85.2	89.1	—	—	—
Appalachian	91.5	82.6	87.1	96.0	86.3	91.2	93.6	85.1	88.9	—	—	—
Michigan	91.4	83.0	87.2	96.2	86.8	91.6	92.9	85.2	89.1	—	—	—
North Illinois	91.9	83.3	87.6	96.7	87.3	92.0	93.5	85.5	89.5	—	—	—
Central Mississippi	92.0	82.6	87.3	96.4	87.3	91.8	93.1	85.1	89.1	—	—	—
Lower Mississippi	91.8	82.2	87.0	97.3	86.7	92.1	92.6	85.2	88.9	—	—	—
North Plains	91.6	82.9	87.3	97.5	87.4	92.5	91.8	84.1	88.0	—	—	—
Central Plains	92.4	83.0	87.8	98.6	86.8	92.7	93.0	84.8	89.0	—	—	—
South Plains	91.6	83.0	87.3	96.4	86.3	91.4	92.7	84.7	88.7	—	—	—
South Texas	91.9	82.5	87.2	97.0	86.5	91.7	93.2	85.2	89.2	—	—	—
South Mountain States	91.1	81.8	86.5	96.7	86.1	91.4	92.0	84.1	88.1	—	—	—
North Mountain States	90.5	81.7	86.1	95.8	86.2	91.0	91.8	83.4	87.7	—	—	—
Pacific Northwest	92.6	83.5	88.1	96.3	86.7	91.5	93.5	84.9	89.3	—	—	—
North California	93.1	84.0	88.6	97.0	86.1	91.6	94.9	86.7	90.8	—	—	—
South California	92.6	83.5	88.0	96.7	86.5	91.6	93.9	85.6	89.8	—	—	—
Average												
Summer 1982	**91.9**	**82.8**	**87.3**	**96.8**	**86.6**	**91.7**	**93.0**	**85.0**	**89.0**	—	—	—
Summer 1981	**91.9**	**83.0**	**87.4**	**96.3**	**86.2**	**91.3**	**92.8**	**85.1**	**89.0**	—	—	—

(X) In 1981, DOE began two classifications for leaded gasoline—Below 93 octane and Above 93 octane. The data on above 93 octane were not available when this latest study was completed and published.

Source: Bartlesville (Okla.) Energy Technology Center, Department of Energy, Motor Gasolines, Summer, 1982, May, 1983.

Gasohol Consumption by States—1981

The table below, prepared by the Federal Highway Administration, shows gross gallons of gasohol reported by the distributors in each state. However, the agency says, the total must not be considered as a national total. In states where gasohol is taxed at the same rate as gasoline, the gallonage data are not reported separately and are commingled with gasoline data. In other states, however, partial tax exemptions have been legislated but the reporting systems have not yet been converted for separate reporting. In any case, this total should be considered a minimum not a national total.

(Add 000 gal.)

State	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Alabama	—	—	—	—	—	—	—	—	—	—	—	—	—
Alaska	—	—	—	—	—	—	—	—	—	—	—	—	—
Arizona	122	128	159	136	147	96	135	95	70	179	180	396	1,843
Arkansas	526	857	685	392	559	583	537	404	354	228	381	596	6,104
California	3,179	5,531	6,651	6,787	6,234	12,385	11,546	13,158	15,044	17,155	19,751	30,374	147,795
Colorado	755	632	730	730	759	835	843	858	788	794	702	774	9,200
Connecticut	1,133	851	776	893	870	901	889	789	810	697	409	477	9,495
Delaware	6	—	4	10	—	—	—	—	—	—	—	—	20
Dist. of Col.	—	7	—	—	1	—	4	—	—	—	—	8	20
Florida	4,090	4,486	5,464	5,916	5,729	5,783	4,921	4,767	4,205	4,408	5,043	5,545	60,357
Georgia	809	578	507	487	390	359	260	147	133	32	74	75	3,851
Hawaii	137	121	145	145	124	123	120	103	107	97	90	99	1,411
Idaho	—	—	—	—	—	—	—	—	—	—	—	—	—
Illinois	3,828	3,316	7,275	7,414	7,171	7,598	7,594	7,135	—	—	—	—	51,331
Indiana	—	—	—	—	—	—	—	—	—	—	—	—	—
Iowa	15,790	11,406	14,591	13,406	13,571	10,821	15,614	12,886	15,042	18,026	22,607	26,598	190,358
Kansas	1,574	1,353	1,461	1,719	1,573	1,088	953	944	873	851	809	902	14,100
Kentucky	274	385	95	422	240	39	330	158	170	101	106	187	2,507
Louisiana	—	—	—	—	—	—	—	—	—	—	—	—	—
Maine	405	260	173	80	174	80	33	20	41	6	10	5	1,287
Maryland	1,235	1,001	1,208	1,205	806	695	596	440	440	93	17	18	7,754
Massachusetts	1,041	683	453	339	587	469	286	331	223	87	11	7	4,517
Michigan	3,619	3,756	4,492	3,009	6,014	5,746	6,412	6,862	6,269	5,227	7,473	7,651	66,530
Minnesota	1,087	273	407	99	611	406	203	28	24	22	20	20	3,200
Mississippi	—	—	—	—	—	—	—	—	—	—	—	—	—
Missouri	—	—	—	—	—	—	—	—	—	—	—	—	—
Montana	22	13	19	5	11	8	17	51	57	31	92	147	473
Nebraska	2,514	2,306	2,413	2,312	2,392	2,512	2,619	2,472	2,543	2,628	2,698	3,661	31,072
Nevada	—	—	—	—	—	—	—	142	143	143	115	98	641
New Hampshire	235	213	130	109	95	99	43	67	71	73	14	—	1,149
New Jersey	336	278	260	220	172	141	119	100	51	3	—	—	1,680
New Mexico	—	—	—	—	—	—	—	—	—	—	—	—	—
New York	—	—	—	—	—	—	—	—	—	—	—	—	—
North Carolina	1,425	1,167	1,189	1,340	1,375	1,185	1,181	1,038	931	893	694	756	13,174
North Dakota	1,122	995	916	1,027	850	952	930	808	806	908	832	857	11,003
Ohio	704	499	495	525	260	310	485	386	693	1,064	2,094	2,117	9,632
Oklahoma	3,088	4,322	2,568	3,542	4,092	3,823	3,777	1,532	3,069	1,370	3,563	2,753	37,499
Oregon	—	—	—	—	—	—	—	—	—	—	—	—	—
Pennsylvania	—	—	—	—	—	—	—	—	—	—	—	—	—
Rhode Island	55	49	49	28	28	29	26	32	28	3	13	59	399
South Carolina	946	1,218	1,270	1,397	1,350	1,300	1,260	1,119	1,356	1,216	1,045	1,041	14,518
South Dakota	392	655	784	627	545	548	608	612	490	542	404	526	6,733
Tennessee	—	—	—	—	—	—	—	—	—	—	—	—	—
Texas	—	—	—	—	—	—	—	—	—	—	—	—	—
Utah	—	—	—	—	—	—	—	—	—	—	—	—	—
Vermont	—	—	—	—	—	—	—	—	—	—	—	—	—
Virginia	—	—	—	—	—	55	358	357	317	240	268	396	1,991
Washington	896	1,079	1,048	764	888	1,068	640	781	720	294	1,181	623	9,982
West Virginia	49	29	35	4	3	4	—	4	2	4	—	—	134
Wisconsin	—	—	—	—	—	—	—	—	—	—	—	—	—
Wyoming	64	53	73	78	90	84	~~99~~	80	65	56	55	49	846
Total	51,460	48,502	56,525	55,147	57,711	60,125	63,458	58,706	55,935	57,471	70,751	86,815	722,606

Source: Federal Highway Administration, Monthly Gasoline Reports, 1982.

Gasohol Consumption by States—1982

The following table was prepared by the Federal Highway Administration and contains a variety of caveats, as follows: the table shows gross gallons of gasohol reported by the distributors in each state. However, this total must not be considered a national total. In states where gasohol is taxed at the same rate as gasoline, the gallonage data are not reported separately and are commingled with gasoline data. In other states, however, partial tax exemptions have been legislated but the reporting systems have not yet been converted for separate reporting. In any case, the totals on the state should be considered minimums and not maximums for states and the nation as a whole.

(Add 000 gal.)

State	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Alabama	—	—	—	—	—	—	—	—	—	—	—	—	—
Alaska	—	—	—	—	—	—	—	—	—	—	—	—	—
Arizona	693	185	—	848	1,007	787	344	206	246	184	262	334	5,096
Arkansas	184	824	786	698	755	666	743	755	683	716	974	678	8,462
California	22,200	23,447	30,175	28,404	32,125	29,892	44,622	52,867	51,343	43,760	46,705	58,464	464,004
Colorado	2,122	2,128	2,134	2,097	2,026	2,414	3,106	2,704	2,500	2,000	2,000	2,000	27,231
Connecticut	441	436	427	335	328	422	359	351	372	355	264	371	4,461
Delaware	—	—	—	—	—	—	—	—	—	—	—	—	—
Dist. of Col.	—	—	4	5	—	—	—	—	—	—	—	—	9
Florida	4,975	6,507	8,343	7,660	8,781	5,835	7,288	7,790	8,318	11,629	11,848	14,079	103,053
Georgia	14	24	24	1	19	4	4	2	2	8	20	26	148
Hawaii	81	75	82	67	63	—	—	—	—	—	—	—	368
Idaho	—	—	—	—	—	—	—	549	509	453	478	—	1,989
Illinois	—	—	—	—	—	—	—	—	—	—	—	—	—
Indiana	—	—	—	—	—	—	—	—	—	—	—	—	—
Iowa	29,299	34,001	41,666	44,389	42,387	43,704	45,218	44,757	41,756	44,421	43,904	44,000	499,502
Kansas	738	693	619	614	583	550	551	588	588	570	—	—	6,094
Kentucky	472	202	161	232	216	230	1,273	294	1,298	5,756	477	8,261	18,872
Louisiana	—	—	—	—	—	—	—	—	—	—	—	—	—
Maine	—	—	—	—	—	—	—	—	—	—	—	—	—
Maryland	8	12	10	8	10	9	—	16	12	—	15	7	107
Massachusetts	24	26	14	31	34	18	27	25	24	26	22	19	290
Michigan	7,732	6,913	10,192	9,027	7,735	11,374	13,907	20,404	21,775	39,605	26,218	31,912	206,794
Minnesota	524	67	181	443	208	271	165	204	468	516	860	746	4,653
Mississippi	—	—	—	—	—	—	—	—	—	—	—	—	—
Missouri	—	—	—	—	—	—	—	—	—	—	—	—	—
Montana	162	233	252	508	987	1,266	1,261	1,213	843	1,023	1,208	1,194	10,170
Nebraska	3,637	4,016	4,817	4,762	4,647	6,160	7,279	9,254	10,454	11,030	11,404	12,218	89,698
Nevada	98	93	93	89	81	84	88	76	65	68	75	54	964
New Hampshire	—	—	—	—	—	—	—	—	—	—	—	—	—
New Jersey	—	—	—	—	—	—	—	—	—	—	—	—	—
New Mexico	—	—	—	—	—	—	[illegible]	—	93	42	51	—	186
New York	—	—	—	—	—	—	—	—	—	—	—	—	—
North Carolina	587	670	687	680	620	679	753	560	494	587	604	535	7,456
North Dakota	630	716	474	647	455	462	537	439	525	224	634	556	6,499
Ohio	2,202	1,909	1,404	1,038	897	1,712	3,165	5,115	8,195	19,986	19,304	—	64,927
Oklahoma	2,781	7,222	5,300	4,993	6,679	8,017	13,124	17,643	23,308	19,638	21,536	24,812	155,053
Oregon	—	—	—	—	—	—	—	—	—	—	—	—	—
Pennsylvania	—	—	—	—	—	—	—	—	—	—	—	—	—
Rhode Island	22	—	—	—	—	—	—	—	—	—	—	—	22
South Carolina	1,605	1,493	1,844	2,047	1,816	1,983	3,752	5,833	7,342	8,614	12,101	11,058	59,688
South Dakota	489	431	522	905	998975		1,044	1,083	1,678	2,123	1,874	1,869	13,991
Tennessee	—	—	—	—	—	—	—	—	—	—	—	—	—
Texas	383	410	540	543	559	486	1,316	1,963	3,581	6,580	7,437	14,342	38,142
Utah	—	—	—	—	—	—	—	—	—	—	—	—	—
Vermont	—	—	—	—	—	—	—	—	—	—	—	—	—
Virginia	778	2,644	1,562	1,854	2,184	2,845	3,323	2,550	2,774	3,783	3,776	2,761	30,834
Washington	266	911	482	471	387	363	516	811	1,232	682	838	271	7,230
West Virginia	—	—	—	—	—	—	—	—	—	—	—	—	—
Wisconsin	—	—	—	—	—	—	—	—	—	—	—	—	—
Wyoming	46	36	35	22	25	17	16	15	10	13	13	—	248
Total	**83,393**	**96,324**	**112,830**	**113,418**	**116,612**	**121,267**	**153,781**	**178,067**	**190,488**	**224,592**	**214,902**	**230,567**	**1,836,241**

Source: Federal Highway Administration, Monthly Gasoline Reports, 1982.

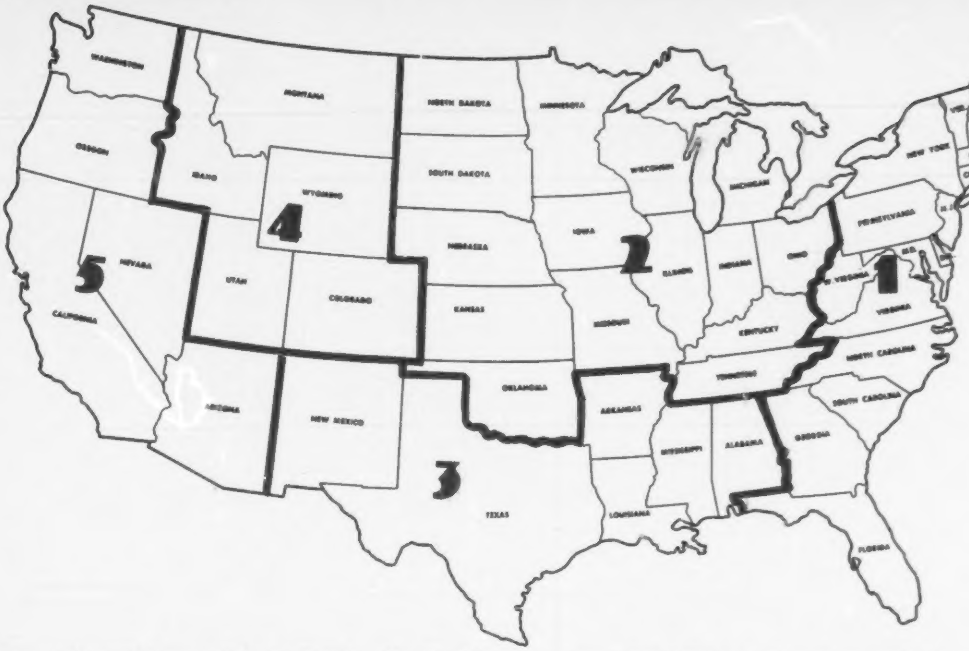
Diesel Sales for Highway Use

Diesel fuel sales for motor vehicles staged a modest comeback in 1981—not much but enough to prove they were better than in 1980. Diesel sales totaled 340.6-million bbl. in 1981, an increase of 5.3% over the preceding year's total of 323.4-million bbl. Off-highway consumption—primarily for construction and farm use—dropped sharply in 1981 for the second consecutive year. Sales amounted to 38.7-million bbl. in 1981 versus 45.0-million bbl. in 1980, a drop of 14.1%. Because the government changed its data-collection format in 1981, the current data is not comparable with prior years.

(Add 000 bbl.)

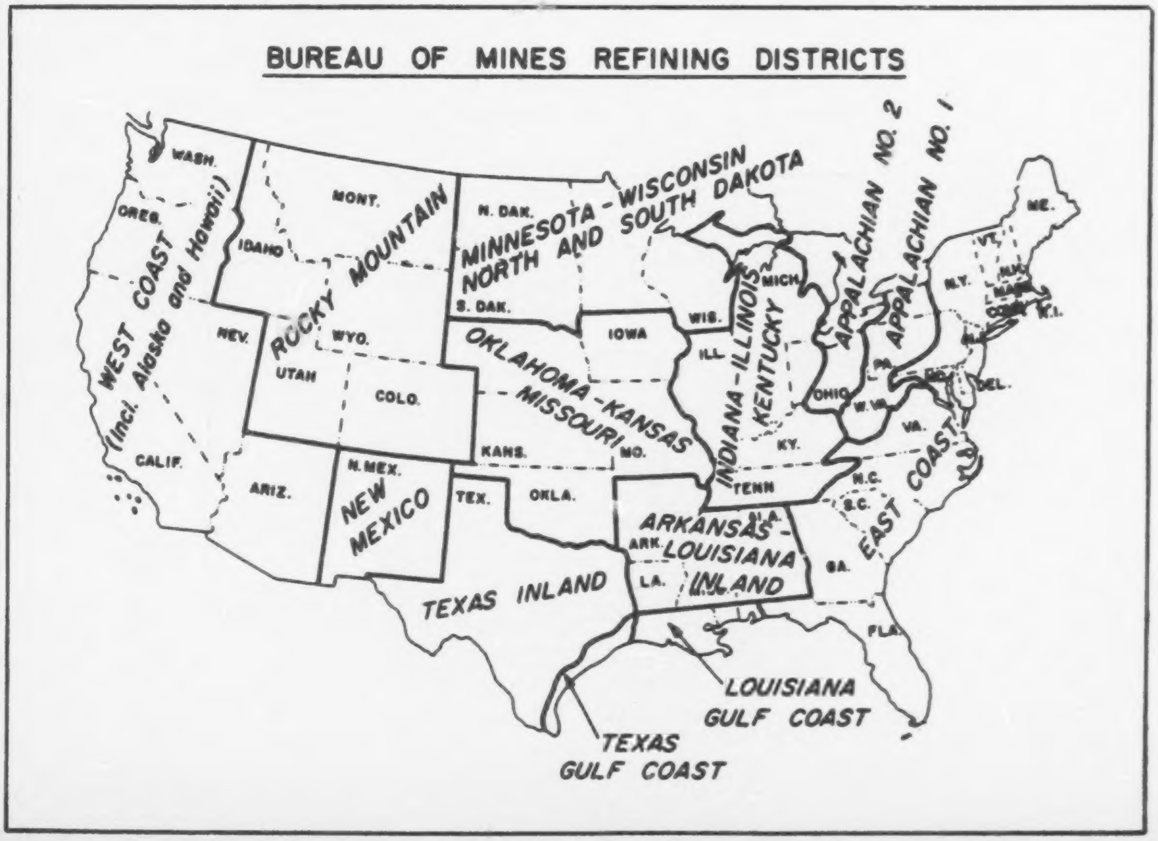
		On-Highway			Off-Highway		
Region	State	1981	1980	% Change	1981	1980	% Change
New England	Connecticut	2,262	2,446	(7.5)	380	422	(10.0)
	Maine	1,248	1,349	(7.5)	176	183	(3.8)
	Massachusetts	4,419	4,346	1.2	282	250	12.8
	New Hampshire	692	656	5.5	113	99	14.1
	Rhode Island	590	638	(7.5)	25	37	(32.4)
	Vermont	753	699	7.7	222	191	16.2
	Total	**9,964**	**10,134**	**(1.7)**	**1,198**	**1,182**	**1.4**
Mid-Atlantic	New Jersey	7,460	8,066	(7.5)	562	665	(15.5)
	New York	7,227	7,814	(7.5)	774	1,054	(26.6)
	Pennsylvania	15,311	16,555	(7.5)	2,476	2,564	(3.4)
	Total	**29,998**	**32,435**	**(7.5)**	**3,812**	**4,283**	**(11.0)**
South Atlantic	Delaware	862	825	4.5	78	167	(53.3)
	Dist. of Columbia	376	406	(7.4)	10	13	(23.1)
	Florida	12,968	11,704	10.8	630	1,082	(41.8)
	Georgia	12,067	10,554	14.3	171	386	(55.7)
	Maryland	4,730	3,891	21.6	571	658	(13.2)
	North Carolina	9,526	8,987	6.0	370	494	(25.1)
	South Carolina	4,968	5,372	(7.5)	193	265	(27.2)
	Virginia	9,038	7,466	21.1	574	843	(31.9)
	West Virginia	2,833	2,904	(2.4)	327	1,069	(69.4)
	Total	**57,368**	**52,109**	**10.1**	**2,924**	**4,977**	**(41.2)**
North East Central	Illinois	15,037	14,308	5.1	826	1,281	(35.5)
	Indiana	13,599	13,551	0.4	575	617	(6.8)
	Michigan	8,230	7,140	15.3	481	652	(26.2)
	Ohio	16,663	16,604	0.4	3,195	2,583	23.3
	Wisconsin	7,230	7,153	1.1	442	569	(22.3)
	Total	**60,759**	**58,756**	**3.4**	**5,519**	**5,712**	**(3.4)**
North West Central	Iowa	6,334	6,312	0.3	314	312	0.6
	Kansas	5,468	5,449	0.3	331	562	(34.1)
	Minnesota	5,957	5,936	0.4	499	727	(31.4)
	Missouri	8,460	8,430	0.4	732	923	(20.7)
	Nebraska	3,438	3,426	0.4	199	272	(26.8)
	North Dakota	2,035	1,849	10.1	190	153	24.2
	South Dakota	1,714	1,708	0.4	97	129	(24.8)
	Total	**33,406**	**33,110**	**0.9**	**2,362**	**3,018**	**(21.7)**
East South Central	Alabama	6,782	7,570	(10.4)	733	676	(8.4)
	Kentucky	5,911	5,890	0.4	947	3,320	(71.5)
	Mississippi	5,848	4,824	21.2	991	789	25.6
	Tennessee	9,112	9,080	0.4	417	601	(30.6)
	Total	**27,653**	**27,364**	**1.0**	**3,088**	**5,386**	**(42.7)**
Southwest Central	Arkansas	5,458	4,942	10.4	733	1,411	(48.0)
	Louisiana	10,031	6,756	48.5	2,068	1,163	(77.8)
	Oklahoma	8,143	7,144	14.0	1,095	1,133	(3.4)
	Texas	31,564	28,170	12.0	5,465	4,394	24.4
	Total	**55,196**	**47,012**	**17.4**	**9,361**	**8,101**	**15.6**
Rockies	Arizona	5,323	5,137	3.6	379	737	(48.6)
	Colorado	3,458	3,358	3.0	655	962	(31.9)
	Idaho	1,331	1,293	2.9	639	474	34.8
	Montana	2,384	2,315	3.0	184	441	(58.3)
	Nevada	1,813	1,833	(1.1)	158	194	(18.6)
	New Mexico	5,848	3,939	48.5	1,733	1,149	50.8
	Utah	2,760	2,609	5.8	527	707	(25.5)
	Wyoming	2,271	2,206	2.9	883	1,921	(54.0)
	Total	**25,188**	**22,690**	**11.0**	**5,158**	**6,585**	**(21.7)**
Pacific Coast	Alaska	1,067	1,079	(1.1)	269	187	43.9
	California	28,423	27,083	4.9	2,960	2,702	8.8
	Hawaii	423	428	(1.2)	235	237	0.9
	Oregon	5,651	5,714	(1.1)	599	1,496	(60.0)
	Washington	5,456	5,517	(1.1)	1,180	1,159	1.8
	Total	**41,020**	**39,821**	**3.0**	**5,243**	**5,781**	**(9.3)**
	U.S. Total	**340,552**	**323,431**	**5.3**	**38,665**	**45,025**	**(14.1)**

Source: Deliveries of Fuel Oil and Kerosine in 1981, Petroleum Supply Annual, 1981, Department of Energy, July, 1982.


WASHINGTON
OREGON
CALIFORNIA
NEVADA
IDAHO
MONTANA
WYOMING
UTAH
COLORADO
ARIZONA
NEW MEXICO
TEXAS
NORTH DAKOTA
SOUTH DAKOTA
NEBRASKA
KANSAS
OKLAHOMA
MINNESOTA
IOWA
MISSOURI
ARKANSAS
LOUISIANA
WISCONSIN
ILLINOIS
MICHIGAN
INDIANA
OHIO
KENTUCKY
TENNESSEE
MISSISSIPPI
ALABAMA
GEORGIA
FLORIDA
SOUTH CAROLINA
NORTH CAROLINA
VIRGINIA
W. VIRGINIA
PENNSYLVANIA
NEW YORK
MAINE
VT.
N.H.
MASS.
CONN.
R.I.
N.J.
MD.
1
2
3
4
5

PAD 1: Connecticut, Delaware, District of Columbia, Florida, Georgia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, North Carolina, Pennsylvania, Rhode Island, South Carolina, Vermont, Virginia, and West Virginia; **PAD 2:** Illinois, Indiana, Iowa, Kansas, Kentucky, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, Oklahoma, South Dakota, Tennessee, and Wisconsin; **PAD 3:** Alabama, Arkansas, Louisiana, Mississippi, New Mexico, and Texas; **PAD 4:** Colorado, Idaho, Montana, Utah, and Wyoming; **PAD 5:** Alaska, Arizona, California, Hawaii, Nevada, Oregon, and Washington.

Source: Energy Data Reports, Department of Energy.


BUREAU OF MINES REFINING DISTRICTS
WASH.
OREG.
WEST COAST (Incl. Alaska and Hawaii)
CALIF.
NEV.
IDAHO
MONT.
ROCKY MOUNTAIN
WYO.
UTAH
COLO.
ARIZ.
N. MEX.
NEW MEXICO
N. DAK.
MINNESOTA - WISCONSIN NORTH AND SOUTH DAKOTA
S. DAK.
IOWA
OKLAHOMA - KANSAS - MISSOURI
KANS.
MO.
TEX.
OKLA.
WIS.
ILL.
INDIANA - ILLINOIS - KENTUCKY
MICH.
KY.
TENN.
OHIO
W.VA.
PA.
APPALACHIAN NO. 2
APPALACHIAN NO. 1
N.Y.
ME.
VT.
N.H.
MASS.
CONN.
R.I.
N.J.
DEL.
MD.
VA.
N.C.
S.C.
EAST COAST
GA.
FLA.
ALA.
MISS.
ARKANSAS - LOUISIANA INLAND
ARK.
LA.
TEXAS INLAND
LOUISIANA GULF COAST
TEXAS GULF COAST

Average Gasoline Prices in 1982—Retail

(¢ per gal.)

	Average Retail Prices				Average Wholesale Prices (b)				Apparent Average Margins			
	Regular		Premium		Regular		Premium		Regular		Premium	
City	Lead	Unld.	Lead	Unld.	Lead	Unld.	Lead	Unld.	Lead	Unld.	Lead	Unld.
Albuquerque, NM												
Full service	135.46	140.37	151.41	140.96	100.92	104.89	109.03	110.18	21.03	21.97	28.87	17.27
Self-service	116.97	122.45	145.57	131.90	99.26	103.06	109.26	109.01	4.20	5.88	22.80	9.38
Anchorage, AK												
Full service	148.20	153.35	159.90	159.05	108.00	112.29	118.19	117.86	28.20	29.06	29.71	29.19
Self-service	125.35	135.12	145.90	148.85	108.15	112.58	117.79	117.94	5.20	10.54	16.11	18.91
Atlanta, GA												
Full service	139.92	146.50	—	152.74	98.29	102.22	—	107.72	25.04	27.44	—	27.94
Self-service	116.09	124.99	—	139.31	97.68	101.53	—	106.83	2.74	7.44	—	15.91
Bakersfield, CA												
Full service	140.33	147.92	152.76	153.43	100.06	103.31	108.90	109.07	21.33	25.24	24.21	24.68
Self-service	121.35	128.64	135.77	141.78	99.08	102.54	106.27	108.52	4.40	7.82	10.81	14.23
Baltimore, MD												
Full service	133.80	139.14	—	146.94	97.32	101.21	—	106.50	22.29	23.74	—	26.25
Self-service	113.48	119.37	—	136.48	97.23	101.11	—	106.37	2.06	4.07	—	15.92
Birmingham, AL												
Full service	134.72	140.91	—	147.26	98.27	102.23	—	107.32	20.45	22.68	—	23.94
Self-service	118.79	127.18	134.40	137.66	97.55	101.43	104.66	106.40	5.24	9.75	13.74	15.26
Boise, ID												
Full service	139.68	144.25	149.26	151.36	102.48	106.49	108.70	113.18	20.91	21.47	24.27	21.89
Self-service	123.38	129.56	137.81	143.39	100.95	104.92	109.53	112.82	6.14	8.35	11.99	14.28
Boston, MA												
Full service	123.40	129.39	127.52	140.04	100.24	104.15	107.88	109.36	8.49	10.57	4.97	16.01
Self-service	118.04	123.71	127.83	135.31	99.31	103.30	107.97	108.43	4.06	5.74	5.19	12.21
Charlotte, NC												
Full service	136.89	141.79	141.51	147.99	99.00	102.94	104.99	108.14	21.89	22.85	20.52	23.85
Self-service	117.27	124.46	—	134.26	97.51	101.31	—	106.29	3.76	7.15	—	11.97
Chicago, IL												
Full service	140.41	146.52	144.06	155.76	99.07	102.94	103.25	108.34	19.48	21.38	18.75	24.69
Self-service	121.67	128.05	140.18	143.88	98.56	102.39	102.26	107.89	2.31	4.50	16.08	13.94
Cincinnati, OH												
Full service	131.83	137.57	147.07	145.65	98.49	102.38	103.09	107.61	17.86	19.71	28.50	22.56
Self-service	116.23	122.96	—	134.17	97.93	101.79	—	107.21	2.82	5.69	—	11.48
Denver, CO												
Full service	134.66	140.18	143.76	147.88	100.01	103.91	106.73	108.58	21.65	23.27	24.03	26.30
Self-service	114.06	122.31	136.03	133.19	98.17	101.97	107.62	107.43	2.89	7.34	15.41	12.76
Des Moines, IA												
Full service	138.32	144.79	141.58	143.57	101.73	105.71	111.90	109.11	19.59	22.08	12.68	17.46
Self-service	118.99	126.22	129.65	128.99	99.08	103.06	111.90	107.55	2.91	6.16	.75	4.44
Detroit, MI												
Full service	143.64	149.36	—	158.29	98.18	102.07	—	107.38	25.36	26.97	—	30.24
Self-service	118.21	125.12	—	140.84	97.62	101.45	—	106.69	1.46	4.28	—	14.15
El Paso, TX												
Full service	126.64	131.73	142.43	141.9[illegible]	99.27	103.26	110.64	107.93	18.37	19.47	22.79	25.02
Self-service	114.11	120.35	138.86	129[illegible]	97.63	101.53	111.07	109.36	7.48	9.82	18.79	11.02
Fresno, CA												
Full service	141.38	147.93	148.96	154.[illegible]	100.42	103.67	108.29	109.52	21.96	24.89	21.24	25.63
Self-service	123.28	131.37	137.12	143.26	99.59	103.09	106.60	108.84	5.71	9.84	11.76	15.31
Honolulu, HI												
Full service	152.27	158.16	162.23	164.38	104.46	108.07	112.03	115.87	22.95	25.01	24.96	23.19
Self-service	135.72	146.82	153.88	152.60	104.13	107.89	111.96	111.54	7.37	14.28	17.00	16.19
Houston, TX												
Full service	132.52	137.48	137.02	144.02	97.60	101.56	103.26	106.50	25.92	26.92	24.76	28.52
Self-service	110.26	118.91	—	129.19	96.29	100.03	—	105.28	4.97	9.88	—	14.91
Indianapolis, IN												
Full service	141.48	146.50	133.34	153.67	97.95	101.76	101.85	106.84	23.70	24.72	11.97	26.53
Self-service	118.57	124.59	135.45	140.57	97.70	101.44	105.20	106.73	1.92	3.97	10.65	14.04
Jackson, MS												
Full service	139.52	145.02	154.83	151.90	98.47	102.36	105.10	107.65	21.41	22.75	29.36	24.02
Self-service	122.29	129.28	—	139.57	97.32	100.96	—	106.62	6.15	9.16	—	13.30
Kansas City, MO												
Full service	127.69	133.01	141.76	142.32	98.70	102.53	108.36	108.26	17.99	19.48	22.40	23.06
Self-service	112.10	118.67	130.83	129.29	97.02	100.71	108.36	106.34	4.08	6.96	11.47	11.95
Las Vegas, NV												
Full service	141.82	148.03	151.96	154.03	100.65	104.20	109.43	109.77	23.91	26.57	25.27	27.00
Self-service	119.00	127.90	138.12	142.22	99.59	103.23	105.98	109.37	2.15	7.41	14.88	15.59
Long Island, NY												
Full service	127.35	134.67	136.14	146.23	100.34	104.26	108.82	109.66	7.03	9.94	6.75	15.33
Self-service	122.98	129.88	129.29	141.61	100.17	104.11	109.41	109.30	3.12	5.62	.23	11.38
Los Angeles, CA												
Full service	137.36	143.41	147.32	150.38	99.25	102.57	107.82	108.41	19.12	21.49	19.93	22.22
Self-service	120.00	126.54	137.52	139.53	98.69	102.07	105.48	108.24	3.33	6.10	13.04	12.17
Louisville, KY												
Full service	133.74	138.87	—	145.75	99.37	103.26	—	108.44	20.55	21.79	—	23.49
Self-service	115.14	122.47	—	132.03	97.50	101.23	—	106.55	3.82	7.42	—	11.66
Memphis, TN												
Full service	135.67	141.38	145.40	147.01	98.67	102.57	105.51	107.76	23.00	24.81	25.89	25.25
Self-service	114.10	122.49	144.18	134.84	97.55	101.25	104.01	106.33	2.55	7.24	26.17	14.51

Note: Self-service includes mini-service. There is no self-service in New Jersey and Oregon; (b) Wholesale average prices combine (1) average dealer buying prices (dealer tankwagon, extax) and (2) average rack prices plus 1¢ gal. average haul. Although there is no full-service or self-service distinction at wholesale. Average wholesale prices may be different because the brand mix of each set is different.

Source: The Lundberg Survey, Inc., April, 1983.

And Wholesale and Apparent Margins

(¢ per gal.)

	Average Retail Prices				Average Wholesale Prices (b)				Apparent Average Margins			
	Regular		Premium		Regular		Premium		Regular		Premium	
City	Lead	Unld.	Lead	Unld.	Lead	Unld.	Lead	Unld.	Lead	Unld.	Lead	Unld.
Miami, FL												
Full service	133.07	139.92	143.41	147.30	99.27	103.18	110.79	108.68	21.80	24.74	—	26.62
Self-service	113.42	121.96	—	133.69	98.86	102.68	—	106.18	2.56	7.28	20.62	13.51
Milwaukee, WI												
Full service	135.90	142.05	122.90	148.63	99.03	103.16	98.00	108.41	19.87	21.89	7.90	23.22
Self-service	117.88	124.92	—	135.76	98.37	102.32	—	107.28	2.51	5.60	—	11.48
Minneapolis, MN												
Full service	145.00	150.15	144.41	159.16	100.86	104.82	100.52	110.06	27.14	28.33	26.89	32.10
Self-service	119.65	125.95	137.71	135.43	99.05	102.85	104.79	108.04	3.60	6.10	15.92	10.39
New Haven, CT												
Full service	130.40	136.52	133.73	146.02	101.66	105.54	110.06	110.57	13.74	15.98	8.67	20.45
Self-service	119.56	126.04	—	138.90	101.40	105.23	—	110.19	3.16	5.81	—	13.71
New Orleans, LA												
Full service	138.28	143.98	—	150.89	97.90	101.91	—	107.14	28.38	30.07	—	31.75
Self-service	113.34	120.70	—	135.83	97.07	100.90	—	106.03	4.27	7.80	—	17.80
Newark, NJ												
Full service	118.09	124.82	—	135.35	98.78	102.64	—	107.73	7.31	10.18	—	15.62
Self-service	114.72	121.17	—	131.46	97.07	100.67	—	105.46	5.65	8.50	—	14.00
Norfolk, VA												
Full service	138.06	142.81	—	149.28	98.58	102.50	—	107.66	24.48	25.31	—	26.62
Self-service	118.72	124.76	—	137.04	97.87	101.69	—	106.76	5.85	8.07	—	15.28
Omaha, NE												
Full service	137.87	143.78	—	150.93	100.04	104.04	—	108.85	20.01	21.92	—	24.25
Self-service	119.33	126.31	158.40	134.52	98.87	102.82	99.65	107.95	2.64	5.67	40.93	8.75
Philadelphia, PA												
Full service	129.34	134.82	—	145.93	98.40	102.20	—	107.26	15.94	17.62	—	23.67
Self-service	115.68	120.24	—	140.43	98.17	101.89	—	106.72	2.51	3.35	—	18.71
Phoenix, AZ												
Full service	135.36	140.27	—	145.89	97.22	101.10	—	106.56	25.13	26.16	—	26.32
Self-service	112.85	121.64	135.52	134.26	96.90	100.63	105.63	106.07	2.94	8.00	16.88	15.18
Pittsburgh, PA												
Full service	124.78	130.16	—	140.15	99.81	103.75	—	108.84	9.97	11.41	—	16.31
Self-service	116.87	122.20	—	135.36	99.76	103.63	—	108.86	2.11	3.57	—	11.50
Portland, OR												
Full service	130.10	137.20	146.64	146.67	98.80	102.06	107.44	107.88	16.30	20.14	24.20	23.79
Self-service	117.94	126.60	140.91	140.23	98.67	101.93	107.14	107.71	4.27	9.67	18.77	17.52
Providence, RI												
Full service	128.56	135.91	—	144.95	99.56	103.37	—	106.55	13.77	17.31	—	21.17
Self-service	120.02	126.21	—	137.80	99.06	102.81	—	107.90	5.73	8.17	—	14.67
Reno, NV												
Full service	147.09	153.54	161.32	161.34	102.52	105.95	110.39	111.98	25.31	28.33	31.67	30.10
Self-service	124.70	131.36	146.60	147.17	101.57	105.10	109.33	110.21	3.87	7.00	18.01	17.70
Rochester, NY												
Full service	128.37	133.61	—	143.65	100.56	104.32	—	109.62	7.93	9.07	—	13.15
Self-service	123.96	129.14	—	139.87	100.08	103.87	—	109.05	4.29	5.34	—	10.19
Sacramento, CA												
Full service	142.11	147.72	149.53	154.15	100.20	103.37	108.28	109.39	22.87	24.99	21.79	25.03
Self-service	120.48	127.76	135.64	141.56	98.73	102.25	104.87	108.73	3.93	7.28	12.09	13.82
Salt Lake City, UT												
Full service	132.99	138.06	143.79	149.50	100.49	104.45	108.71	109.90	17.50	18.61	20.08	24.60
Self-service	120.13	125.58	134.24	134.33	98.79	102.79	106.96	107.96	6.34	7.79	12.28	11.37
San Diego, CA												
Full service	141.29	146.55	150.48	153.48	99.73	103.00	108.49	108.80	22.56	24.25	22.47	24.99
Self-service	120.82	127.30	138.17	142.70	98.74	102.08	105.26	108.51	4.24	7.01	14.09	15.11
San Francisco, CA												
Full service	140.33	146.45	151.40	153.55	100.30	103.52	108.24	109.41	20.81	23.35	23.29	24.15
Self-service	123.05	130.89	140.47	142.99	99.61	102.93	105.49	109.15	5.23	9.30	15.75	14.47
Seattle, WA												
Full service	138.64	143.62	149.55	150.88	98.78	101.97	107.47	107.88	23.86	25.65	26.08	27.00
Self-service	117.62	125.18	139.05	139.15	98.31	101.61	106.98	107.37	3.31	7.57	16.07	15.78
Spokane, WA												
Full service	135.17	140.48	153.68	147.15	99.85	103.15	104.91	109.13	19.32	21.33	32.77	22.02
Self-service	121.48	127.28	130.76	134.79	99.04	102.41	104.71	108.03	6.44	8.87	10.05	10.76
St. Louis, MO												
Full service	130.63	136.28	146.90	144.62	98.45	102.22	110.50	108.01	21.18	23.06	25.40	25.61
Self-service	110.94	118.86	123.68	132.33	97.63	101.32	104.03	106.87	2.31	6.54	8.65	14.46
Stockton, CA												
Full service	140.51	146.75	149.26	153.08	99.49	102.84	107.75	108.92	22.07	24.60	22.06	24.50
Self-service	121.58	129.10	135.05	141.01	98.61	102.01	105.48	108.17	5.09	8.78	10.93	13.86
Tampa/St. Pete, FL												
Full service	132.98	139.46	—	146.98	98.66	102.55	—	108.33	21.64	24.23	—	25.97
Self-service	112.14	121.78	—	135.62	97.93	101.66	—	107.22	1.53	7.44	—	15.72
Tucson, AZ												
Full service	129.79	135.27	124.88	143.37	97.60	101.62	104.71	106.99	19.18	20.64	7.16	23.37
Self-service	113.70	121.74	131.33	134.26	97.28	101.08	104.71	106.83	3.41	7.67	13.61	14.42
Washington, DC												
Full service	137.50	142.81	—	150.23	97.20	101.10	—	106.49	24.35	25.76	—	27.79
Self-service	116.93	123.03	—	138.01	97.06	100.92	—	106.34	3.92	6.18	—	15.72

Wholesale Price Trends Through 1982

	Refinery products in eight refinery markets representing total U.S.						Crude	
					Average 4 products			
Year	Motor gasoline ¢ gal.	Kero-sine ¢ gal.	Light fuel ¢ gal.	Heavy fuel ¢ gal.	¢ gal.	$/bbl.	8 areas $/bbl.	Products vs. crude $/bbl.
1982 (a)	92.90	97.18	91.95	57.80	82.44	34.62	28.501	6.12
1981	101.63	101.03	97.20	61.17	88.75	37.28	31.770	5.51
1980	87.40	80.26	78.21	44.43	72.77	30.56	21.190	9.38
1979	56.84	56.50	54.47	33.63	49.50	20.79	12.640	8.15
1978	39.22	37.23	35.66	23.00	33.72	14.16	9.000	5.16
1977	36.99	35.81	34.41	25.87	32.21	13.95	8.570	5.38
1976	33.82	31.67	30.38	21.66	29.55	12.41	8.141	4.26
1975	30.27	27.41	26.09	22.03	27.03	11.35	7.560	3.79
1973	14.72	14.08	12.61	8.45	12.49	5.25	3.885	1.365
1971	12.70	12.90	10.75	7.76	10.94	4.59	3.385	1.205
1970	12.33	12.43	10.45	6.14	10.20	4.28	3.177	1.103
1965	11.52	11.28	9.04	4.81	9.12	3.83	2.864	0.966

(a) Preliminary
Source: Independent Petroleum Assn. of America. Product figures reflect trends in prices but not the actual sales realizations for producers or refiners.

AvGas, LPG and Natural-Gas Prices

	Aviation (¢ per gal. excluding taxes)							
	Av. Gasoline		Naphtha-type (a)	Kerosine-type		Wholesale (d)		
	Wholesale (b)	Retail (c)	Retail (c)	Wholesale (b)	Retail (c)	Propane	Butane	Natural Gas $ per MCF for Residential Heating
1982								
January	122.4¢	133.2¢	101.7¢	101.3¢	101.6¢	43.1¢	51.8¢	$4.86
February	122.0	134.0	101.3	100.0	101.0	38.3	48.9	4.87
March	117.0	134.8	98.4	97.6	99.6	35.7	49.6	5.06
April	113.4	132.7	96.0	93.0	96.8	34.9	56.1	5.18
May	109.6	132.7	94.1	91.7	95.5	35.4	65.6	5.63
June	114.7	132.5	98.4	94.1	95.3	36.9	67.9	5.62
July	120.4	134.4	98.7	94.3	95.3	39.7	69.7	5.60
August	117.7	132.6	97.3	95.0	95.4	43.8	72.2	5.56
September	115.7	130.0	98.2	95.5	95.1	49.5	77.4	5.82
October	116.6	131.5	98.5	98.4	95.8	51.0	75.7	6.11
November	118.4	130.7	96.4	98.1	96.4	53.2	76.2	5.94
December	119.6	130.0	94.0	93.6	95.6	49.5	72.7	6.06
1981								
January	118.9	121.6	99.2	97.1	95.7	46.5	66.1	4.10
February	121.3	128.1	102.7	103.6	101.6	48.2	63.0	4.13
March	127.2	131.1	106.9	104.8	106.3	48.3	62.1	4.21
April	117.5	131.3	109.0	103.8	106.4	49.3	60.1	4.25
May	120.7	133.5	109.1	104.4	106.2	48.6	56.8	4.61
June	116.5	132.1	107.6	102.3	104.8	46.0	52.7	4.61
July	120.1	133.4	106.3	100.5	103.8	46.0	56.5	4.64
August	120.0	132.5	105.7	101.4	103.3	47.2	60.6	4.70
September	121.0	133.5	105.6	103.0	103.3	47.7	64.6	4.90
October	117.2	134.5	104.8	99.9	101.1	47.3	64.7	4.91
November	114.4	133.2	104.5	101.9	102.6	47.5	61.6	4.88
December	116.8	131.9	103.8	101.9	102.2	45.5	55.4	4.75
Average 1982	**116.7**	**132.4**	**97.7**	**96.1**	**96.9**	**43.3**	**64.8**	5.53
1981	118.8	131.5	105.7	102.0	103.1	47.2	60.4	4.56
1980	107.2	109.4	88.2	87.5	87.4	42.6	61.8	3.95
1979	68.5	69.5	52.3	66.5	55.1	29.5	45.8	3.23
1978	51.0	52.1	37.5	38.9	38.9	24.0	23.0	2.63
1977	46.7	47.7	35.0	36.7	35.8	25.0	24.0	2.26
1976	42.4	43.1	31.5	32.5	31.2	20.6	21.9	1.85

(a) Nearly all naphtha-type fuels are sold directly to Defense Fuel Supply Center; hence, wholesale prices are not applicable; (b) Wholesale refers to the price of aviation fuel sold to other refiners and resellers, including bulk plants, branded and unbranded jobbers, and aviation-fuel distributors; (c) retail refers to the price of aviation fuel sold to ultimate consumers, including commercial airline and military accounts; (d) Wholesale refers to the price at which refiners, resellers, and gas plants sell to one another, including sales to agricultural and industrial accounts but excludes butane/propane mixtures.
Source: Department of Energy, Monthly Energy Review, March 1983.

Gasoline Prices by Grades and Months (a)

(U.S. averages, retail, including taxes, in ¢ per gal.)

		Leaded Regular	Unleaded Regular	Leaded Premium	Average for All Types
1982	January	128.5	135.8	145.6	134.1
	February	126.0	133.4	143.8	131.8
	March	120.6	128.4	140.7	126.8
	April	114.8	122.5	136.8	121.0
	May	116.6	123.7	137.9	122.4
	June	124.2	130.9	140.8	129.6
	July	126.3	133.1	145.0	131.8
	August	125.4	132.3	145.8	131.0
	September	123.6	130.8	144.1	129.5
	October	121.9	129.5	141.3	128.0
	November	120.7	128.3	141.2	126.8
	December	118.1	126.0	137.1	124.4
	Average	**122.2**	**129.6**	**141.7**	**128.1**
1981	January	123.8	129.8	133.8	126.9
	February	132.1	138.2	141.0	135.3
	March	135.2	141.7	144.9	138.8
	April	134.4	141.2	145.1	138.1
	May	133.3	140.0	144.7	137.0
	June	132.4	139.1	144.6	136.2
	July	131.5	138.2	144.6	135.3
	August	131.0	137.6	144.4	134.8
	September[2]	130.5	137.6	145.6	135.8
	October	129.9	137.1	145.7	135.3
	November	129.7	136.9	146.2	135.1
	December	129.3	136.5	146.0	134.8
	Average	**131.1**	**137.8**	**143.9**	**135.3**
Average	1980	119.1	124.5	128.1	122.1
	1979	85.7	90.3	92.2	88.2
	1978	62.6	67.0	69.4	65.2
	1977	62.2	65.6	67.4	NA
	1976	59.0	61.4	63.6	NA
	1975	56.7	NA	60.9	NA
	1974	53.2	NA	56.9	NA

(a) Department of Energy discontinued in 1980 its series breaking out full-service and self-service prices, see Factbook '81 for last reports of this type; also, beginning in September, 1981, Bureau of Labor Statistics changed the weights used in the calculation of average motor gasoline prices. In the fourth column above, gasohol is now included and unleaded premium is weighted more heavily.

Source: Department of Energy, Monthly Energy Review, March 1983.

Distributor Diesel, Distillate and Resid Prices

	No. 2 Motor Fuel (¢ per gal. ex. taxes)		No. 2 Residential (¢ per gal.)			No. 6 ($ per bbl.) (a)	
	Wholesale	Retail	Purchase Price	Selling Price	Margin	Wholesale	Retail
1982							
January	98.0	105.3	101.5	122.0	19.3	27.07	29.83
February	94.8	103.2	98.3	120.7	21.3	26.29	30.02
March	90.2	98.0	91.3	115.3	22.6	25.73	29.50
April	86.6	96.1	90.0	113.2	22.0	25.46	28.21
May	89.1	97.6	95.1	114.3	18.4	26.52	28.93
June	93.5	102.2	98.5	116.2	16.9	26.62	29.59
July	93.4	101.1	98.6	115.8	16.3	25.97	29.33
August	92.3	99.3	96.7	115.9	18.2	26.34	28.44
September	92.4	99.8	97.7	115.2	16.3	26.49	28.43
October	95.7	102.1	102.0	119.6	16.7	27.52	29.28
November	97.4	104.2	101.9	121.9	18.9	28.43	30.05
December	91.2	100.1	95.9	119.7	22.9	26.47	29.26
Average	**92.2**	**100.5**	**97.29**	**117.5**	**19.2**	**26.53**	**29.09**
1981							
January	92.5	100.9	98.6	114.4	15.1	31.14	33.65
February	99.5	106.1	106.0	123.4	16.1	31.81	36.04
March	101.7	108.8	106.3	125.5	17.6	31.78	36.11
April	101.3	107.7	105.2	123.9	17.7	30.56	34.70
May	100.8	106.8	104.0	122.7	17.6	30.41	34.11
June	99.5	106.6	103.0	120.9	16.9	25.95	31.03
July	98.8	103.8	102.7	121.0	17.1	26.52	30.57
August	97.8	105.9	102.2	119.4	16.2	27.01	30.52
September	97.6	104.8	101.6	119.7	17.2	26.20	30.33
October	97.4	105.3	101.1	118.8	16.6	26.78	30.32
November	98.3	105.2	102.3	120.8	17.6	27.99	30.16
December	98.3	105.1	102.6	122.0	18.3	27.26	30.90
Average	**98.5**	**106.2**	**102.6**	**120.5**	**16.8**	**28.86**	**32.50**
Average 1980	81.2	87.3	82.2	97.8	15.8	23.14	26.09
1979	58.2	62.4	52.8	65.4	12.8	17.66	18.67
1978	37.1	40.2	38.5	49.2	10.9	11.51	12.77
1977	36.1	39.3	36.9	46.0	9.6	12.01	13.22
1976	31.9	34.7	32.6	40.6	8.8	10.60	11.46
1975	—	—	31.2	37.7	7.4	10.44	11.65

(a) This is an average for all sulfur levels of No. 2; 1% sulfur is fairly close to the average used here. Less than 1% is more expensive, more than 1¢ less costly; (b) Wholesale refers to the price of diesel fuel sold to other refiners and resellers, including branded jobbers, unbranded jobbers, and commercial accounts. Retail refers to the price at which company-owned and operated retail dealers sell to customers.

Source: Department of Energy, Monthly Energy Report, March 1983.

Late Reports: Lundberg 1982 Data for Gasoline, On-Road Diesel, Gasohol and Distillate Volumes

Lundberg Survey, Inc., estimates 1982 consumption of principal motor fuels as follows: Taxable gasoline, 100.6-billion gal.; on-road diesel for cars, trucks and buses, 14.2-billion gal.; and gasohol, 1.9-billion gal. This adds up to a grand total of 116.7-billion gal. of liquids to keep the nation's highways humming smoothly. Lundberg Survey, in another special report, estimated No. 2 distillate consumption for the year 1982 at 47.0-billion gals.

	All Year 1982			
	Add 000 gal.			Add 000,000 gal.
	Taxable Gasoline	On-Road Diesel	Gasohol	No. 2 Distillates
Alaska	203,216	13,604	0	315
Alabama	1,796,223	295,625	11,522	563
Arkansas	1,074,120	239,641	7,904	509
Arizona	1,329,337	186,044	5,095	436
California	10,674,372	1,268,629	464,004	2,442
Colorado	1,440,457	189,004	27,231	457
Connecticut	1,239,509	122,251	4,460	785
Dist. of Col.	159,264	19,280	33	79
Delaware	284,360	32,480	0	701
Florida	4,840,162	572,415	93,973	1,081
Georgia	3,118,669	538,958	147	768
Hawaii	307,439	17,607	368	233
Iowa	896,930	280,402	497,738	676
Idaho	441,501	87,503	4,101	228
Illinois	4,794,464	546,705	NA	1,567
Indiana	2,389,541	602,342	NA	1,457
Kansas	1,139,069	209,107	7,189	721
Kentucky	1,676,108	247,797	18,448	907
Louisiana	2,081,617	313,704	NA	1,159
Massachusetts	2,204,091	184,936	286	1,325
Maryland	1,878,778	193,396	108	1,002
Maine	496,296	66,907	0	486
Michigan	3,536,576	354,477	206,794	1,005
Minnesota	1,954,703	282,383	4,653	881
Missouri	2,452,195	382,747	NA	804
Mississippi	1,125,899	176,096	NA	369
Montana	418,600	108,169	8,758	223
North Carolina	2,770,821	446,021	7,383	1,027
North Dakota	395,351	96,965	6,499	335
Nebraska	792,578	140,326	89,373	317
New Hampshire	383,123	29,460	267	225
New Jersey	3,169,954	374,381	0	3,982
New Mexico	720,771	147,304	188	249
Nevada	483,673	84,386	909	235
New York	5,362,897	400,780	NA	3,026
Ohio	4,545,169	655,328	70,829	2,404
Oklahoma	1,609,406	362,073	155,042	567
Oregon	1,188,332	248,270	NA	723
Pennsylvania	4,218,823	653,639	NA	2,724
Rhode Island	353,249	25,601	22	221
South Carolina	1,417,080	246,465	59,688	463
South Dakota	358,754	77,120	13,383	252
Tennessee	2,343,213	405,593	NA	926
Texas	8,125,209	1,490,326	38,143	4,486
Utah	658,679	113,679	NA	341
Virginia	2,424,768	355,598	30,834	1,212
Vermont	235,634	15,745	NA	148
Washington	1,822,067	215,049	7,230	785
Wisconsin	1,952,339	301,754	2,717	922
West Virginia	1,001,206	100,205	0	282
Wyoming	355,928	108,556	258	460
Total U.S.	**100,642,250**	**14,627,733**	**1,935,623**	**47,009**

(a) Gasohol U.S. total is estimated and includes "N.A." states, and all blended alcohol fuels qualifying for tax exemptions. (N.A.) states where data are not available separately.
Source: Lundberg Survey, Inc., May, 1983.

Residential Heating Oil Prices by Region

(¢ per gal).

	Standard Federal Regions (a)									
	1	2	3	4	5	6	7	8	9	10
1982										
January	125.3	124.7	120.6	118.7	117.1	(b)	112.7	116.1	(b)	119.7
February	123.2	123.7	119.3	115.3	116.0	(b)	110.9	114.9	(b)	119.5
March	117.4	119.0	112.3	112.9	111.0	(b)	106.4	109.7	(b)	118.1
April	113.9	116.6	112.2	109.4	108.7	(b)	100.8	106.3	(b)	116.0
May	115.9	117.1	113.2	111.7	110.8	(b)	108.7	108.4	(b)	116.6
June	117.5	118.5	115.2	113.5	114.4	(b)	111.8	112.3	(b)	116.0
July	117.7	118.5	113.4	115.2	113.6	(b)	111.7	(b)	(b)	115.9
August	118.6	118.8	113.9	112.4	111.9	(b)	(b)	(b)	(b)	116.3
September	119.4	119.3	(b)	115.0	112.4	(b)	(b)	114.2	(b)	116.2
October	122.3	122.4	118.5	117.3	114.8	(b)	110.5	113.1	(b)	117.4
November	124.3	124.8	120.1	118.9	115.9	(b)	112.1	114.8	(b)	119.1
December	122.1	123.0	118.0	114.1	113.4	(b)	107.3	111.9	(b)	118.7
1981										
January	116.2	117.1	113.2	114.0	110.4	(b)	106.3	108.6	(b)	107.5
February	125.8	126.6	123.0	124.4	117.8	(b)	114.2	113.1	(b)	113.7
March	127.6	128.4	125.0	125.3	119.3	(b)	115.4	119.3	111.5	116.5
April	126.8	126.6	122.7	124.8	118.3	(b)	114.7	118.4	(b)	117.5
May	125.5	125.6	122.1	118.8	117.3	(b)	114.5	115.1	114.1	115.6
June	124.1	123.6	121.1	115.9	116.5	(b)	112.5	116.0	(b)	117.1
July	123.3	122.9	120.6	120.2	116.0	(b)	115.9	116.2	(b)	118.3
August	122.7	122.2	117.9	117.4	115.1	(b)	112.1	116.9	(b)	117.7
September	122.7	121.4	118.5	120.5	116.2	(b)	111.6	116.8	(b)	117.8
October	122.5	122.0	115.3	117.6	116.3	(b)	112.0	115.8	(b)	118.2
November	123.3	123.2	119.5	118.2	116.7	(b)	114.1	115.8	(b)	118.8
December	124.8	124.7	120.7	119.0	117.4	(b)	112.4	117.1	(b)	120.0

(a) Standard Federal Regions are as follows: 1. Me., N.H., Vt., Mass., Conn., R.I.; 2. N.Y., N.J., Puerto Rico and Virgin Islands; 3. Pa., Md., W.Va., Va., D.C., Del.; 4. Ky., Tenn., N.C., S.C., Miss., Ala., Ga., Fla., Canal Zone; 5. Minn., Wis., Mich., Ill., Ind., Ohio; 6. Tex., N.M., Okla., Ark., La.; 7. Kan., Mo., Iowa, Neb.; 8. Mont., N.D., S.D., Wyo., Utah, Colo.; 9. Calif., Nev., Ariz., Hawaii, Trust Terr. of Pacific Is., American Samoa, Guam; 10. Wash., Ore., Ida., Alaska; (b) Not available for publication because samples are too small.

Source: Department of Energy, Monthly Energy Review, March 1983.

Average No. 6 Residual Fuel Oil Prices

($ per bbl., excluding taxes)

	0.0% to 0.3% sulfur		0.31% to 1.0% sulfur		Greater than 1.0% sulfur		Average	
	Wholesale	Retail	Wholesale	Retail	Wholesale	Retail	Wholesale	Retail
1982								
January	33.03	37.56	28.90	31.13	24.60	25.94	27.07	29.83
February	31.67	38.41	29.30	30.95	23.60	24.70	26.29	30.02
March	30.95	38.96	27.60	30.57	23.45	24.21	25.73	29.50
April	30.11	36.77	27.08	30.00	23.57	24.40	25.46	28.21
May	30.38	37.97	27.89	30.05	25.15	25.94	26.52	28.93
June	27.98	38.93	28.26	30.89	25.35	26.56	26.62	29.59
July	30.05	37.46	27.39	29.84	24.19	26.49	25.97	29.33
August	28.86	31.82	27.50	30.37	25.40	26.02	26.34	28.44
September	30.22	32.41	27.73	30.45	25.21	25.93	26.49	28.43
October	31.98	33.51	29.51	32.24	25.72	26.59	27.52	29.28
November	32.28	34.14	29.36	32.24	26.30	26.96	28.43	30.05
December	31.24	32.59	27.87	30.21	[illegible]	26.19	26.47	29.26
Average	**30.91**	**36.34**	**28.27**	**30.71**	[illegible]	**25.82**	**26.53**	**29.09**
1981								
January	34.27	37.23	32.12	33.96	29.12	31.35	31.14	33.65
February	38.04	41.60	34.96	37.32	28.96	32.02	31.81	36.04
March	37.78	41.19	34.47	38.01	29.55	31.95	31.78	36.11
April	35.66	41.71	33.10	35.94	28.35	30.56	30.56	34.70
May	33.61	41.09	32.53	35.94	28.77	30.64	30.41	34.11
June	28.01	38.30	26.71	32.38	25.33	27.16	25.95	31.03
July	29.56	39.02	27.38	31.93	25.62	25.96	26.52	30.57
August	30.48	36.57	27.77	32.04	26.03	26.20	27.01	30.52
September	29.91	39.17	27.46	32.08	24.80	26.26	26.20	30.33
October	30.20	39.90	28.64	31.88	24.96	26.18	26.78	30.32
November	31.71	39.48	29.63	31.02	26.09	26.45	27.99	30.16
December	31.40	37.65	28.29	32.19	25.39	26.53	27.26	30.90
Average	**32.97**	**39.31**	**30.56**	**33.69**	**27.07**	**28.57**	**28.86**	**32.50**
Average 1980	26.41	31.13	24.91	27.59	20.77	22.11	23.14	26.09
1979	19.87	21.21	18.33	19.33	15.89	16.44	17.66	18.67
1978	12.77	14.47	11.95	12.78	10.73	11.70	11.51	12.75
1977	13.45	14.36	12.09	13.45	11.31	12.27	11.96	13.23
1976	12.20	12.54	10.83	11.79	9.98	10.43	10.72	11.49

(a) Wholesale refers to the price of residual fuel sold to other refiners and resellers, including bulk plants, branded and unbranded jobbers, and other residual dealers. Retail refers to the price at which residual fuel oil is sold to ultimate consumers such as utility, industrial, commercial and residential accounts.

Source: Department of Energy, Monthly Energy Review, March 1983.

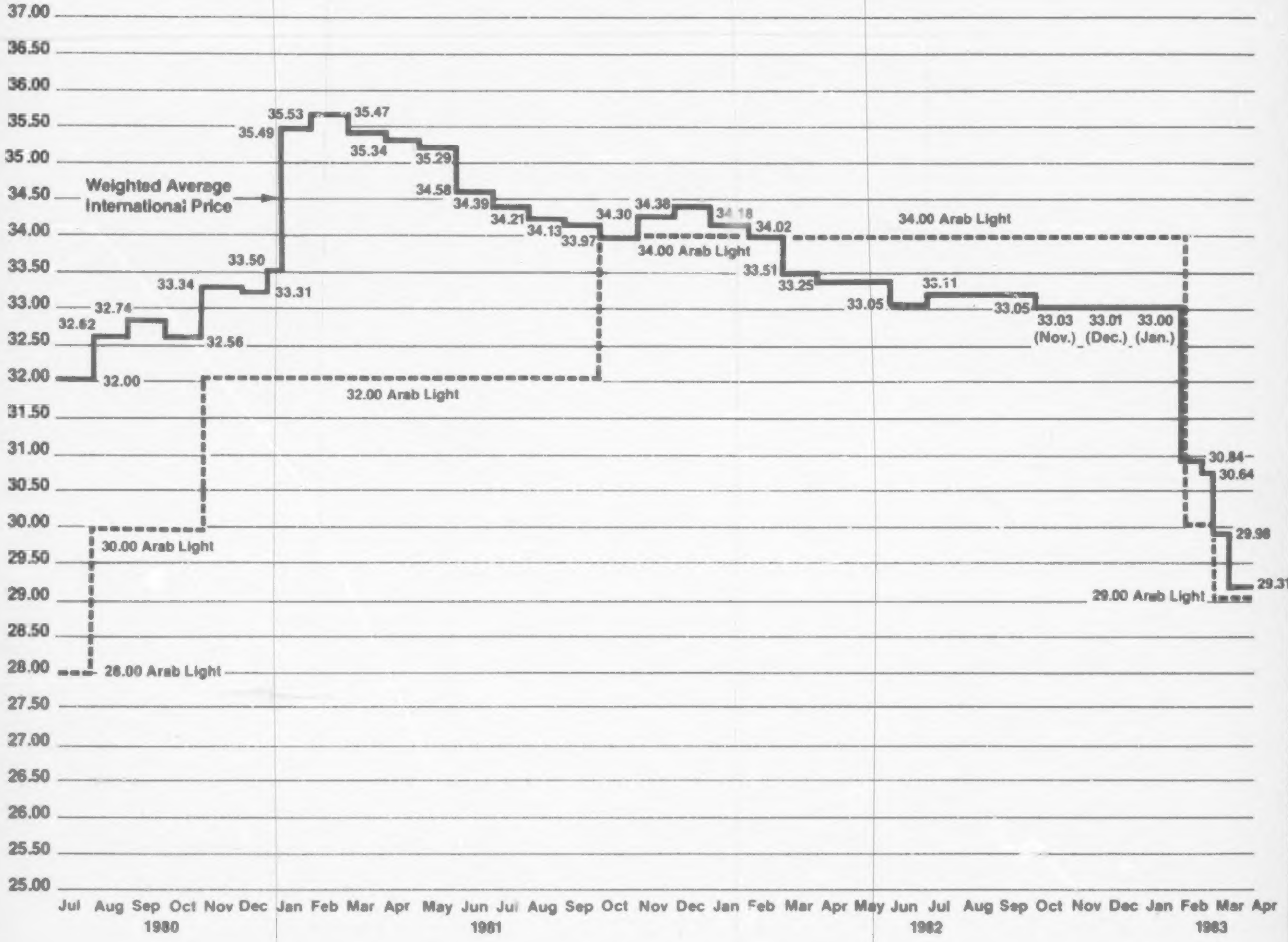
Spot Market Product Prices

($ per bbl.)

		Gasoline		Fuel Oil		Residual	
1983		Rotterdam (98 Octane)	New York (89 Octane)	Rotterdam (0.5% Sulfur)	New York (0.2% Sulfur)	Rotterdam (1% Sulfur)	New York (1% Sulfur)
Jan	7	34.88	35.13	37.73	34.86	27.55	25.75
	14	35.46	34.82	37.47	34.44	26.73	25.75
	21	34.29	36.29	37.00	35.60	26.58	26.00
	28	33.88	35.03	34.45	33.08	25.98	25.50
Feb	4	33.70	34.57	32.37	32.55	23.87	25.00
	11	31.48	34.92	32.37	32.86	23.50	25.50
	18	31.48	34.82	33.98	32.76	24.47	26.00
	25	30.72	33.24	30.63	31.08	22.97	25.00
Mar	4	31.01	32.99	31.70	30.56	23.50	25.25
	11	31.65	33.41	31.70	30.45	24.17	25.25
	18	32.30	34.57	31.64	30.56	24.92	25.25
	25	32.53	35.57	30.90	30.76	24.70	25.25
Apr	1	33.82	35.99	31.70	31.71	25.23	25.75
	8	34.70	36.77	32.51	32.66	25.30	26.00
	15	36.69	37.09	33.58	34.65	25.90	25.50
	22	35.58	37.40	33.78	35.28	25.60	26.75
	29	36.75	37.19	33.51	35.49	25.98	26.75
1982							
Jan	8	39.98	39.67	44.30	40.42	31.68	28.40
	15	38.68	38.72	43.57	39.90	30.78	29.00
	22	38.57	38.93	40.88	39.38	29.50	28.35
	29	38.22	38.30	39.21	38.22	29.73	28.70
Feb	5	37.22	37.67	38.40	38.54	28.68	28.50
	12	37.22	37.61	37.87	37.90	27.93	29.25
	19	35.93	37.61	37.87	37.80	27.93	29.25
	26	35.52	35.72	37.00	37.38	28.08	28.50
Mar	5	35.46	34.88	35.32	35.28	28.08	28.00
	12	34.41	34.57	34.38	33.60	26.95	27.00
	19	32.42	34.55	34.99	34.02	26.50	27.00
	26	32.83	34.52	36.13	34.06	26.65	26.25
Apr	2	36.64	36.54	35.52	34.54	26.80	26.25
	9	36.17	38.01	35.72	36.12	27.78	27.70
	16	36.64	38.22	36.66	36.54	28.53	28.50
	23	37.51	39.69	37.87	38.22	28.75	28.75
	30	39.57	39.40	39.68	38.32	29.43	29.00
May	7	41.68	40.53	38.81	37.80	29.80	29.25
	12	41.85	41.87	39.21	38.32	29.73	29.50
	19	42.67	42.29	40.21	38.85	29.73	28.75
	26	43.79	42.61	40.35	39.69	29.43	28.35
Jun	4	44.37	41.68	40.55	39.48	29.05	28.35
	11	44.08	42.21	39.34	39.90	27.40	28.40
	18	43.08	40.66	37.60	38.64	28.60	28.50
	25	39.57	39.56	36.53	38.33	28.45	28.25
Jul	2	39.86	40.07	37.27	38.01	27.10	27.00
	9	39.86	40.07	37.27	38.01	27.10	27.00
	16	40.04	39.73	35.32	37.59	25.90	27.00
	23	39.57	39.84	36.13	37.38	25.53	26.80
	30	40.12	39.59	36.98	36.96	27.78	27.00
Aug	6	38.80	39.59	37.33	37.06	28.00	27.00
	13	38.45	40.00	37.60	37.80	27.85	27.00
	20	39.15	40.00	38.70	37.80	27.85	27.25
	27	39.86	40.05	40.29	38.32	27.85	27.75
Sep	3	40.56	39.84	38.46	39.48	28.38	28.00
	10	40.39	39.69	41.02	39.58	28.68	29.25
	17	41.03	39.38	41.22	39.90	28.75	28.75
	24	42.61	39.38	41.22	41.26	28.90	29.60
Oct	1	41.03	38.54	41.96	41.58	29.88	30.25
	8	40.15	38.96	42.29	42.00	30.33	30.35
	15	41.03	38.74	42.96	42.42	30.48	31.00
	22	40.04	39.69	42.76	42.74	30.78	31.35
	29	39.39	38.96	41.42	41.37	30.26	30.75
Nov	5	39.80	38.45	38.88	41.37	29.95	30.50
	12	38.22	38.56	40.28	40.32	28.75	30.00
	19	36.11	37.02	38.81	38.85	26.88	28.00
	26	36.28	36.33	38.87	37.06	26.88	27.50
Dec	3	33.65	35.76	38.67	35.07	26.95	26.75
	10	33.88	36.50	38.20	36.96	26.80	25.75
	17	34.00	35.13	39.75	36.12	26.73	26.35
	24	33.70	34.92	39.28	34.86	26.73	26.35

World Crude Oil Prices (a)

(Dollars per bbl.)



(a) Internationally traded oil only. Average prices FOB weighted by estimated export volume.
Source: Department of Energy, Weekly Petroleum Status Report, April, 1983.

Landed Costs of Crude Oil from Selected Countries (a)

	Algeria	Canada	Indonesia	Iran	Libya	Mexico	Nigeria	Saudi Arabia	United Kingdom	Venezuela
1982	$34.89	$27.79	$36.81	$32.43	$35.66	$28.80	$36.06	$34.90	$34.16	$25.01
1981	40.49	32.16	37.57	(c)	40.92	33.78	39.70	34.19	37.24	29.87
1980	37.90	30.47	33.92	(c)	37.72	31.80	30.05	30.02	35.88	25.86
1979	21.90	20.43	20.69	25.02	23.68	20.86	22.96	19.15	22.16	18.18
1978	14.91	14.50	14.64	13.88	14.72	13.54	14.86	13.92	NA	12.83
1977	15.20	14.21	14.63	13.80	14.87	13.75	15.25	13.61	NA	13.13
1976	13.81	13.57	13.82	12.82	13.58	NA	13.80	13.04	NA	11.80
1975	12.72	12.72	13.79	12.21	12.35	NA	12.62	12.30	NA	11.65

(a) Does not include supplemental costs; (b) Preliminary estimates; (c) No crude has been imported from Iran since February, 1980.
Source: Department of Energy, Monthly Energy Review, March, 1983.

International Prices for Gasoline and Fuel Oil

(U.S. dollars per gal. for gasoline; per 42-gal. bbl. for fuel oil)

	1/1/82				7/1/81				1/1/81			
	Gasoline		Fuel Oil		Gasoline		Fuel Oil		Gasoline		Fuel Oil	
Country	Reg.	Prem.	Dist.	Resid.	Reg.	Prem.	Dist.	Resid.	Reg.	Prem.	Dist.	Resid.
WESTERN HEMISPHERE												
Argentina	x	x	x	x	1.29	1.56	2[illegible].05	13.82	2.15	2.63	32.87	25.45
Bolivia	.91	1.06	34.98	x	.92	1.40	34.98	x	.76	.91	31.91	25.44
Brazil	—	—	—	—	—	—	—	—	2.52	x	x	24.73
Canada	x	x	x	x	1.16	1.26	x	x	.98	1.06	25.42	18.90
Chile	x	x	x	x	1.91	2.07	58.47	42.12	1.74	2.00	x	28.64
Colombia	.94	1.10	19.74	x	.81	.96	19.74	x	.86	1.03	x	36.18
Dominican Republic	x	2.57	47.23	30.36	x	2.57	47.04	30.24	x	2.39	39.67	22.82
Ecuador	—	—	—	—	—	—	—	—	.60	.80	x	11.76
El Salvador	2.90	2.98	38.13	x	2.49	2.56	32.76	x	2.49	2.56	x	x
Jamaica	2.12	2.17	55.15	34.03	2.17	2.17	55.15	34.03	2.12	2.17	53.26	38.39
Mexico	.87	1.45	15.23	3.19	.44	1.10	6.62	2.99	.45	1.13	x	2.45
Panama Republic	2.18	2.32	38.90	x	2.12	2.26	38.59	x	2.04	2.17	x	x
Paraguay	3.30	4.21	68.77	55.52	3.61	4.51	68.77	55.52	3.61	4.51	68.77	55.52
Peru	.94	1.13	x	x	.91	1.10	16.80	17.22	.69	.84	15.73	10.41
United States	1.22	1.35	45.15	27.26	1.25	1.36	45.23	26.52	1.24	1.34	43.93	31.35
Uruguay	3.36	4.14	x	33.22	3.35	4.17	x	33.30	3.31	4.11	x	32.93
Venezuela	.13	.31	2.03	1.50	.13	.31	2.03	1.60	.13	.31	2.44	1.68
WESTERN EUROPE												
Austria	2.64	2.76	x	34.84	2.16	2.32	x	32.18	2.46	2.65	48.62	35.78
Belgium	2.77	2.79	59.62	31.07	2.71	2.80	49.81	33.95	2.91	3.00	53.84	43.28
Denmark	2.86	2.90	71.06	47.20	2.85	2.89	66.63	50.05	3.09	3.13	43.41	x
Finland	2.68	2.79	79.84	28.57	2.77	2.88	82.46	30.25	3.03	3.15	53.58	34.78
France	—	—	—	—	—	—	—	—	2.82	2.99	32.12	35.29
Germany, West	—	—	—	—	—	—	—	—	2.33	2.43	x	34.33
Greece	x	x	x	x	2.11	2.37	47.09	22.57	2.58	2.91	54.23	29.16
Ireland	—	—	—	—	—	—	—	—	2.50	2.54	54.05	38.85
Italy	x	x	x	x	2.73	2.84	47.04	32.84	3.28	3.38	32.88	35.98
Luxembourg	2.26	2.34	55.04	28.82	1.99	2.05	46.34	31.14	2.26	2.34	54.78	44.30
Netherlands	2.59	2.50	x	x	2.49	2.58	x	x	2.65	2.71	47.95	35.00
Norway	2.84	2.89	x	39.62	2.68	2.73	x	38.35	2.93	2.99	x	x
Portugal	3.14	3.37	68.40	29.63	2.75	2.99	56.46	20.29	3.25	3.54	49.00	25.24
Spain	2.56	2.88	71.21	32.63	2.53	2.84	70.19	29.69	2.76	3.11	x	36.04
Sweden	x	x	x	x	2.61	2.66	54.72	52.88	2.75	2.80	53.59	47.88
Switzerland	x	x	x	x	2.47	2.49	x	30.95	2.56	2.58	46.03	38.78
Turkey	1.47	1.62	41.07	27.27	1.56	1.74	46.00	29.83	x	x	x	x
United Kingdom	2.46	2.50	x	44.95	2.62	2.65	x	43.64	2.51	2.52	50.53	36.01
Yugoslavia	2.66	2.86	59.10	54.04	x	x	x	x	2.80	3.12	55.52	53.00
MIDDLE EAST												
Iran	x	x	x	x	1.62	2.16	4.08	x	1.62	2.16	4.08	x
Israel	1.84	2.08	58.88	33.93	2.02	2.12	47.20	28.23	2.92	3.07	49.10	31.75
Lebanon	x	x	x	x	x	.99	x	16.38	x	x	x	x
Saudi Arabia	x	x	x	x	.18	.24	x	x	.23	.25	x	x
AFRICA												
Ethiopia	2.18	2.36	46.58	x	2.18	2.36	x	x	1.38	1.65	x	x
Ghana	3.42	3.72	58.02	43.39	3.63	3.94	58.03	43.39	3.12	3.42	58.02	49.39
Kenya	x	x	x	x	2.55	2.74	42.15	29.49	2.34	2.66	41.92	33.64
Morocco	x	x	x	x	2.61	2.75	61.37	28.10	2.93	3.10	x	29.30
South Africa, Republic of	2.27	2.30	72.56	35.77	2.20	2.23	67.76	38.82	2.53	2.59	81.70	44.27
Tunisia	1.95	2.06	x	15.24	x	x	x	x	2.07	2.20	14.28	12.24
ASIA-PACIFIC												
Australia	x	x	x	x	1.77	1.83	60.15	x	1.57	1.87	51.50	x
Burma	x	x	x	x	.39	x	11.73	x	.42	x	x	x
India	2.53	2.60	41.82	35.09	2.45	2.53	44.77	37.56	x	x	x	x
Indonesia	x	x	x	x	.91	1.33	13.36	11.45	.91	1.33	11.40	11.40
Japan	2.74	2.91	74.20	42.04	2.55	2.72	67.75	37.67	2.74	2.93	52.47	44.52
Korea (South)	4.06	5.82	x	48.73	x	x	x	x	x	x	x	x
Pakistan	1.93	2.19	x	19.48	1.91	2.16	x	20.08	1.91	2.11	x	18.96
Philippines	2.36	2.45	40.83	40.83	2.40	2.50	41.60	41.60	2.35	2.45	37.20	37.20
Singapore	x	x	x	x	1.77	1.91	50.00	x	1.71	1.85	x	x
Sri Lanka	x	x	x	x	x	2.00	55.51	29.61	x	1.98	39.47	31.76
Thailand	1.87	2.21	49.11	30.28	2.05	2.14	53.78	33.16	2.13	2.22	36.97	34.99

(x) = not reported; (—) = not listed in 1982 summaries.

Source: 1981 International Energy Annual, Department of Energy, September, 1982. Gasoline and fuel oil prices are for the capitals of each country involved, except the U.S., which is the national average for the month. All gasoline prices are pump retails and include taxes and custom duties.

International Prices of Diesel Fuel and Household Kerosine

(U.S. cents per gal.)

Country	Auto Diesel		Household Kerosine	
	1/1/82	7/1/81	1/1/82	7/1/81
Western Hemisphere				
Argentina	x	.60	x	.94
Bolivia	.91	.91	.61	.61
Brazil	—	—	—	—
Canada	x	1.21	x	.81
Chile	x	1.70	x	1.29
Colombia	.94	.81	.94	.81
Dominican Republic	1.15	1.15	.92	.97
Ecuador	—	—	—	—
El Salvador	1.98	1.70	1.84	1.58
Jamaica	1.35	1.35	1.16	1.16
Mexico	.36	.16	.22	.24
Panama Republic	1.40	1.33	1.30	1.29
Paraguay	1.74	1.74	2.10	2.10
Peru	.65	.58	.19	.16
United States	1.05	1.04	1.12	1.10
Uruguay	1.69	1.70	1.80	1.81
Venezuela	.09	.09	.09	.09
Western Europe				
Austria	2.49	2.23	4.02	3.57
Belgium	2.20	1.91	1.47	1.24
Denmark	1.86	1.75	1.67	1.58
Finland	1.93	2.00	1.47	1.57
France				
Germany, West				
Greece	x	1.12	x	1.43
Ireland				
Italy	x	1.26	x	1.06
Luxembourg	1.71	1.34	1.34	1.14
Netherlands	1.81	1.76	1.62	1.56
Norway	1.63	1.52	1.57	1.46
Portugal	1.63	1.34	1.63	1.34
Spain	1.70	1.67	1.74	1.71
Sweden	x	1.34	x	1.40
Switzerland	x	2.34	x	x
Turkey	.98	1.10	1.01	1.13
United Kingdom	2.50	2.69	1.46	1.39
Yugoslavia	2.41	x	2.26	x
Middle East				
Iran	x	x	x	.14
Israel	1.49	1.21	1.37	1.20
Lebanon	x	x	x	.55
Saudi Arabia	x	.08	x	.15
Africa				
Ethiopia	1.44	.99	1.20	1.20
Ghana	2.57	2.73	1.51	1.67
Kenya	x	1.78	x	1.20
Morocco	x	1.46	x	1.46
South Africa, Rep. of	2.30	2.22	1.49	1.39
Tunisia	x	x	.44	x
Asia-Pacific				
Australia	x	1.90	x	1.51
Burma	x	.28	x	.28
India	1.26	1.19	.75	.73
Indonesia	x	.32	x	.23
Japan	1.95	1.73	1.53	1.40
Korea (South)	1.53	x	1.60	x
Pakistan	1.20	1.17	1.05	1.05
Philippines	1.45	1.48	1.46	1.49
Singapore	x	1.23	x	1.21
Sri Lanka	x	1.19	x	.78
Thailand	1.21	1.33	1.01	1.10

Source: 1981 International Energy Report, Department of Energy, September, 1982.
See footnote on preceding table.

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Station Population Falls 4.3% in 1982

There is good news and bad news in the government's annual report on the U.S. service station population. The bad news is that, as expected, the population continued to decline in 1982. The good news is that the outlook for 1983, while still on the negative side, is not all that bad.

A 1981/1982 recap and the latest projections for 1983 were released at the end of January by the Bureau of Industrial Economics of the U.S. Department of Commerce. Between the U.S. Census Bureau's quinquennial nose counts, these numbers are considered the most reliable barometer of trends and totals in the industry.

The 1982 service station population was estimated to be 144,690 outlets. The decline in numbers from 1981's 151,253 stations was steeper than had been projected. In January of 1982, the bureau forecast that the population would fall no lower than 147,000 by the end of the year.

Thus, more than 6,500 service stations dropped out of the picture during the year just ended, for a 4.3% decline.

Although the government gave no reason for the continued decline, it can be assumed that supplier withdrawals, credit card finances, inflation and recession, glutted markets, sagging prices and miserable margins all contributed to the problem.

The peak year for service stations was 1972, when 226,500 outlets were counted. So, with only 144,690 outlets in 1982, more than 81,000 service stations have disappeared in the last 10 years—a decline of 36%.

The outlook for 1983, while still glum, is better. The federal government anticipates that the population shrinkage will slow, and that by December 31, there will be about 139,250 service stations—about 5,400 less than in 1982.

There are several things to remember, however, when interpreting the population figures.

First, as many of these stations disappear, they are replaced by units which pump more gasoline. Smaller stations are being "traded in" on bigger volume outlets. In other words, four or five 10,000 to to 25,000-gal. a month stations may drop by the wayside, but they are being replaced by one 200,000-gal. a month pumper.

Second, these totals reflect only those units defined as "service stations" by the Census Bureau—stations which generate more than 50% of their income from the sale of petroleum products and services.

In real life, there are thousands of convenience stores, garages, mass merchandisers and other places that sell gasoline, but do not fit the "service station" definition.

It is hard—if not impossible—to come up with an accurate count of those additional outlets simply because no one has ever found a way to define, find and tally them.

Convenience store sources estimate their world to be 35,000 to 40,000 units, about half of which (approximately 17,500) sold gasoline in 1982. When the C-store numbers are added in, the gasoline station population increases to at least 162,000 outlets in 1982 and to 157,000 or more in 1983.

Industry experts also assume there are at least 10,000 more gasoline dispensers at mass merchandisers like Sears Roebuck, and at garages, fleet operations, and rural co-ops.

Here again, the population total could be upgraded—to around 172,000 outlets in 1982 and about 167,000 in 1983.

So, overall, the station population, while shrinking constantly, is not really shrinking as fast as it seems.

The bureau's 1982 and 1983 numbers bring good news in the dollar department: Gross sales are increasing, and the bureau estimates industry sales were $106.5-billion in 1982 (up from $101.6-billion in '81) and will be 114.5-billion for 1983.

Comparable U.S. Census Bureau Data (a)

	1977	1972*	1967	% Chng. '77 v. '72	% Chng. '72 v. '67
No. of stations (b)	176,465	226,459	216,059	−22.1%	+4.8%
Total sales ($000,000) ...	$56,468	$33,655	$22,709	+67.8	+48.2
Average per station......	$320,000	$148,600	$105,106	+115.3	+41.4
No. of employees........	672,673	747,688	575,207	−10.0	+30.0

(a) Censuses are made every five years; 1982 census data will not be available until late 1983 and/or early 1984; (b) As above, 50% or more of their income from sale of petroleum products; *Special note, 1972 was the peak year. Source: U.S. Department of Commerce, Censuses of Retail Trade for 1967, 1972 and 1977. For detailed census reports on 1977, see NPN Factbook Issue, Mid-June, 1980.

The Rise and Fall of U.S. Service Stations

	No. of Stations (a)			Sales ($000,000)		
Year	Total	Company-owned	Franchisee-owned	Total	Company-owned	Franchisee-owned
1983	139,250	25,065	114,185	$114,534	$20,616	$93,918
1982	144,690	26,044	118,646	106,544	19,178	87,366
1981	151,250	27,225	124,025	105,145	18,926	89,219
1980	158,540	30,122	128,418	96,338	18,304	78,034
1979	164,780	31,310	133,480	71,894	13,660	58,234
1978	172,300	32,737	139,563	60,884	12,177	48,707
1977	176,465	33,375	141,160	58,231	11,646	46,585
1976	186,840	37,368	149,472	53,416	10,683	42,733
1975	189,480	37,896	151,584	47,387	9,477	37,910
1974	196,130	39,226	156,904	43,829	8,766	35,063
1973	215,880	47,176	172,704	37,666	7,533	30,183
1972	226,459	44,200	176,259	33,656	6,812	26,844
1971	220,000	44,000	176,000	31,149	6,230	24,919
1970	222,000	44,400	177,600	29,340	5,868	23,472

(a) As defined by U.S. Census Bureau, stations with 50% or more of their income from sales petroleum products. Source: "Franchising in the Economy, 1981-1983," U.S. Department of Commerce, January, 1983.

Service Station Population Dips Again

				Percent Changes	
	1983	1982	1981	1982-83	1981-82
Number of establishments .	139,250	144,690	151,250	−3.8%	−4.3%
Company-owned	25,065	26,044	27,225	−3.8	−4.3
Franchisee-owned	114,185	118,646	124,025	−3.8	−4.3
Total sales of products and services (Add 000,000).	$114,534	$106,544	$101,665	7.5	4.8
Company-owned	20,616	19,178	18,300	7.5	4.8
Franchisee-owned	93,918	87,366	83,365	7.5	4.8
Average per station	$822,000	$736,000	$672,000	+11.7	+9.5
No. of employees........	NA	NA	570,900		

(a) As of Dec. 31 of each year; (b) Service stations as defined by U.S. Census Bureau, i.e., stations with 50% or more of their income being derived from the sale of petroleum products.
Source: "Franchising in the Economy, 1981-1983," "Bureau of Industrial Economics, U.S. Department of Commerce, January, 1983.

Service Station Population by States

1983 vs. 1977

The U.S. Census Bureau made its quinquennial survey of retail businesses in 1982, but since that data will not be available until late 1983 or early 1984, NPN's annual projections based on the 1977 data continue to be best estimates of the service station population on state-by-state levels. On a percentage basis, the national population dipped 4.3% in 1982 and is expected to slip another 3.8% by the end of this year. But with fewer stations, the dollar volume at service stations is again increasing, as indicated in the table below.

	Total Gasoline Service Stations				Total Dollar Sales (Add 000)			
	1983(a)	1982(a)	1981(a)	1977(b)	1983(a)	1982(a)	1981(a)	1977(b)
Alabama	2,809	2,920	3,051	3,562	$1,710,158	$1,590,845	$1,517,982	$ 810,443
Alaska	165	171	179	211	217,016	201,875	192,629	102,845
Arizona	1,305	1,357	1,418	1,656	1,375,026	1,279,094	1,220,510	651,625
Arkansas	1,898	1,973	2,062	2,407	1,045,707	975,750	928,197	495,560
California	11,342	11,790	12,320	14,388	12,696,876	11,252,908	10,737,508	5,732,696
Colorado	1,959	2,036	2,127	2,485	1,494,071	1,389,833	1,326,177	708,010
Connecticut	1,746	1,815	1,897	2,215	1,717,808	1,597,961	1,524,772	814,068
Delaware	343	357	373	435	340,810	317,033	302,512	161,511
District of Columbia	197	205	214	250	290,938	270,640	258,244	138,354
Florida	5,745	5,972	6,240	7,287	5,035,807	4,684,472	4,469,916	2,386,463
Georgia	3,993	4,151	4,337	5,066	2,169,256	2,017,912	1,952,489	1,350,915
Hawaii	327	340	355	415	371,553	345,630	329,800	176,079
Idaho	654	680	711	830	470,466	437,643	417,598	222,954
Illinois	6,160	6,403	6,691	7,815	6,418,238	5,970,454	5,696,998	3,040,967
Indiana	3,819	3,970	4,148	4,867	3,591,233	3,340,682	3,187,674	1,701,885
Iowa	2,699	2,806	2,933	3,424	2,013,240	1,872,781	1,787,005	954,073
Kansas	1,944	2,021	2,112	2,466	1,395,687	1,298,314	1,238,849	661,416
Kentucky	2,721	2,829	2,956	3,452	2,153,774	2,003,511	1,911,747	1,020,672
Louisiana	2,357	2,450	2,560	2,989	1,811,059	1,684,706	1,607,544	858,259
Maine	736	765	799	933	514,893	478,971	457,033	244,009
Maryland	1,943	2,020	2,111	2,465	2,553,153	2,375,026	2,266,246	1,209,948
Massachusetts	3,060	3,181	3,324	3,882	2,721,496	2,531,624	2,415,672	1,289,715
Michigan	5,181	5,386	5,628	6,572	5,467,116	5,085,689	4,852,757	2,590,860
Minnesota	2,586	2,688	2,809	3,280	2,497,984	2,323,706	2,217,277	1,193,895
Mississippi	1,547	1,608	1,680	1,962	958,302	891,443	850,614	454,139
Missouri	3,950	4,106	4,290	5,008	3,158,409	2,938,055	2,803,488	1,496,768
Montana	762	792	828	968	574,310	534,242	509,773	272,166
Nebraska	1,365	1,419	1,483	1,732	1,112,161	1,034,569	987,184	529,836
Nevada	505	525	549	641	621,612	578,243	551,759	294,582
New Hampshire	555	577	603	704	500,639	465,710	444,380	237,251
New Jersey	4,217	4,384	4,581	5,350	3,805,914	3,540,385	3,378,230	1,803,619
New Mexico	1,096	1,139	1,190	1,389	773,026	719,094	686,158	366,336
New York	7,289	7,577	7,917	9,245	6,106,579	5,680,538	5,420,361	2,893,091
North Carolina	4,553	4,733	4,946	5,775	2,870,043	2,669,807	2,547,526	1,360,111
North Dakota	543	564	589	687	425,202	395,537	377,421	201,503
Ohio	6,952	7,227	7,552	8,820	6,576,909	6,118,055	5,837,839	3,116,790
Oklahoma	2,414	2,509	2,622	3,063	1,382,792	1,286,318	1,227,403	655,239
Oregon	1,724	1,792	1,872	2,185	1,381,704	1,285,306	1,226,437	654,788
Pennsylvania	7,091	7,371	7,702	8,994	6,028,665	5,608,061	5,351,203	2,856,978
Rhode Island	548	570	596	697	456,777	424,908	405,447	216,467
South Carolina	2,353	2,459	2,570	3,001	1,522,929	1,416,678	1,351,792	721,715
South Dakota	677	704	736	861	508,047	472,602	450,956	240,764
Tennessee	3,224	3,351	3,502	4,090	2,428,270	2,258,856	2,155,397	1,150,756
Texas	10,050	10,447	10,916	12,747	7,268,074	6,760,999	6,451,335	3,444,333
Utah	906	942	984	1,149	774,680	720,640	687,634	367,125
Vermont	425	442	462	540	294,470	273,925	261,379	139,550
Virginia	3,147	3,271	3,418	3,992	3,125,426	2,907,373	2,774,211	1,481,137
Washington	2,355	2,461	2,572	3,005	1,998,307	1,858,890	1,773,750	946,996
West Virginia	1,433	1,490	1,557	1,818	1,041,107	968,471	924,114	493,332
Wisconsin	3,187	3,313	3,462	4,043	2,638,121	2,454,066	2,341,666	1,250,204
Wyoming	509	529	553	647	452,535	420,963	401,682	214,456
Total	**139,066**	**144,588**	**151,200**	**176,465**	**$16,858,375**	**$110,010,794**	**$105,766,505**	**$56,468,144**

(a) Projections by NPN based on Census data and other Commerce Department reports; (b) U.S. Census Bureau Retail Trades Census, 1977.
Source: NPN projections based on Commerce Department data.

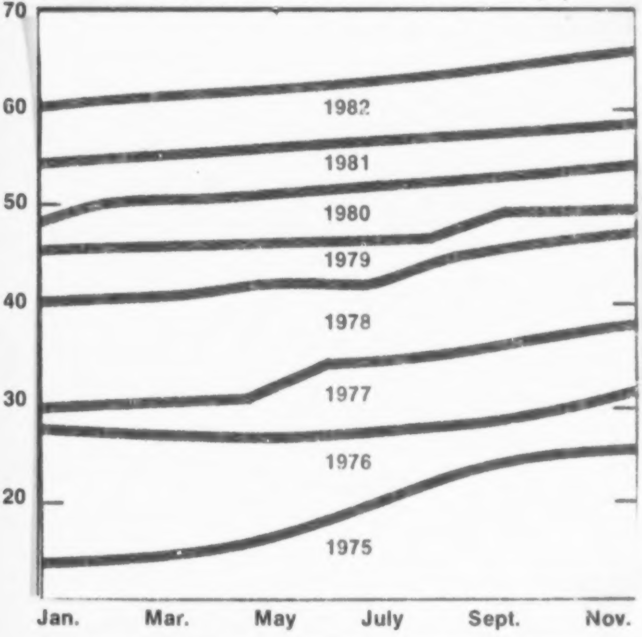
How Self-Service Appeals to Motorists

Self-service gasoline marketing is now far and away the most popular type of motor fuel sales in the U.S., according to two different surveys. An Amoco Oil Co. internal report says self-service volume hit the two-thirds mark by the end of 1982. Lundberg Letter, a market research report, was even stronger. It indicated self-service volume was around 72% by the end of last year.

Self-service marketing is legal in 48 of the 50 states and the District of Columbia. Oregon and New Jersey are the only states that ban self-service. Oregon voters, in a November referendum, failed to approve self-service. In New Jersey, another major fight was underway in the legislature last spring, with retailers fighting the most formidable proposal yet to lift the ban on self-service.

Amoco conducts a regular popularity poll of its motorist-customers to determine their service station preferences. In all but a handful of states, more than half of the motorists voted for self-service in December 1982. The laggard states, if they can be called that, were in the upper Atlantic seaboard—Maine, Vermont, New Hampshire, Massachusetts, New York and Pennsylvania (see table below).

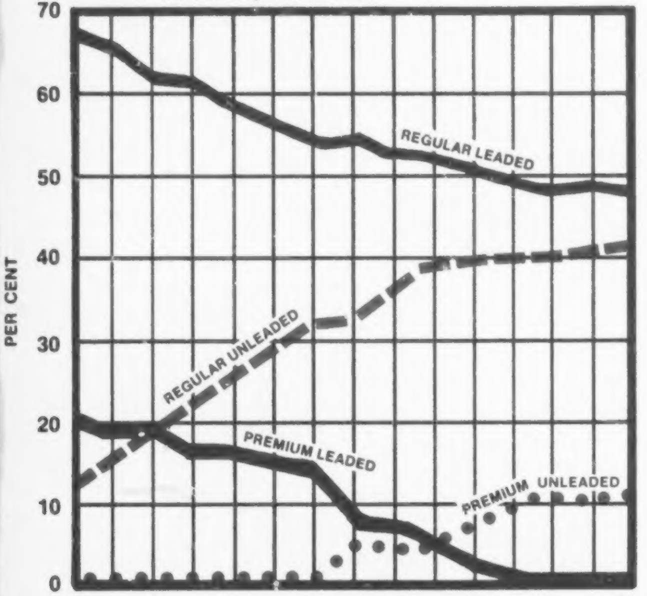
U.S. Self-Serve Motorist Gasoline Market Share (%)



State (a)	% of Buyers
Utah	93
Arizona	87
Idaho	83
South Carolina	83
California	80
New Mexico	80
North Carolina	80
Washington	80
Colorado	79
Texas	79
Louisiana	78
Wisconsin	78
Florida	77
Oklahoma	77
Michigan	75
Georgia	74
Illinois	74
Iowa	74
Montana	74
Virginia	74
Wyoming	74
Nevada	72
Alabama	71
Delaware	71
Minnesota	71
Mississippi	71
North Dakota	71
Indiana	70
Tennessee	70
Missouri	69
Arkansas	68
Maryland	66
South Dakota	65
Nebraska	64
Dist. of Col.	63
Ohio	63
Kansas	60
Kentucky	59
Connecticut	57
West Virginia	57
Rhode Island	50
Pennsylvania	49
New York	46
Massachusetts	39
New Hampshire	37
Vermont	26
Maine	25

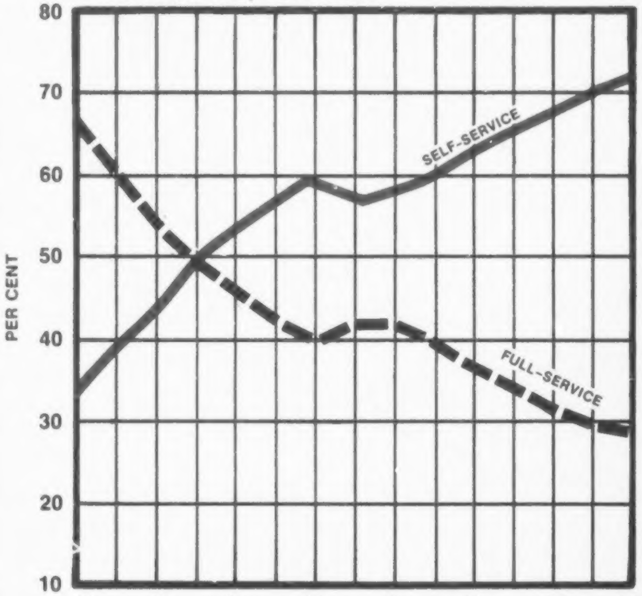
(a) Self-service is illegal in New Jersey and Oregon.
Source: Amoco Oil Co., January, 1983.

HOW GASOLINE MARKET HAS CHANGED, 1975-1982



Source: Lundberg Letter, December 1982.

SELF-SERVICE VERSUS FULL-SERVICE, 1975-1982*



*"Full service" denotes stations at which an attendant fills the tank.
Source: Lundberg Letter, December 1982.

Business at Service Stations

Dollar Volume

Year	No. of service stations	Total sales (add $000,000,000)	Avg. per station (add $000)
1983	**139,250(a)**	**$114.5**	**$822.2**
1982	144.690(a)	106.5	736.1
1981	151,250(a)	101.7	672.4
1980	158,540(a)	96.3	608.0
1979	164,790(a)	70.9	430.0
1978	172,300(a)	60.9	353.0
1977	176,465(b)	56.5	320.0
1976	186,400(a)	48.0	257.0
1975	189,480(a)	43.8	232.0
1972	226,459(b)	33.7	148.8

(a) Franchising in the Economy 1981-1983, U.S. Department of Commerce; data are as of the end of the year.

(b) Bureau of Census definition of gasoline service stations: 50% or more of dollar volume comes from the sale of petroleum products.

Product Sales, Passenger Cars

Year	Privately owned passenger cars (add 000)	Gasoline		Motor oil	
		Avg. gal. per car	Annual retail market (add 000,000 gal.)	Avg. qt. per year	Annual retail market (add 000,000 qt.)
1983	**126,000**	**545**	**68,670**	—	—
1982	124,821	556	69,400	7.3	907
1981	123,462	581	71,731	7.3	909
1980	121,723	603	73,399	7.3	907
1979	120,248	664	79,845	7.3	880
1978	116,534	715	83,760	7.6	921
1977	113,696	706	80,269	7.9	900
1976	110,188	711	78,344	8.0	887
1975	106,712	712	75,979	9.5	1,014
1972	96,567	755	72,908	10.0	966

Source: Federal Highway Administration through 1981: NPN estimates for 1982 and for motor oil.

Station Customers

Year	No. of service stations	Privately owned passenger cars		Households owning cars		Licensed drivers		Women drivers	
		Total (add 000)	Avg. per station	Total (add 000,000)	Avg. per station	Total (add 000,000)	Avg. per station	Total (add 000,000)	Avg. per station
1983	**139,250**	**126,000**	**904.8**	**73.0**	**524.2**	**150.8**	**1,082.9**	**70.9**	**509.2**
1982	144,690(a)	124,821	862.7	72.0	497.6	149.1	1,030.5	70.4	486.6
1981	151,250(a)	123,462	816.3	70.0	460.5	147.0	969.0	69.2	457.5
1980	158,540(a)	121,723	767.8	67.2	423.8	145.3	916.7	68.1	429.5
1979	164,790(a)	120,248	731.1	65.9	400.0	143.3	868.3	66.8	403.5
1978	172,300(a)	116,534	676.3	64.6	375.0	140.8	817.1	65.3	379.0
1977	176,465(a)	113,696	644.3	63.3	365.5	138.4	784.4	63.7	361.0
1976	186,400(a)	110,188	591.1	62.0	332.6	130.3	689.4	57.9	306.3
1975	189,460(a)	106,712	563.2	60.5	319.3	127.8	662.2	56.8	294.3
1972	226,459(b)	96,567	426.4	52.8	232.2	118.4	522.8	52.6	232.3

(a) Franchising in the Economy 1981-1983, Department of Commerce.

(b) Bureau of Census definition of gasoline service stations: 50% or more of dollar volume comes from the sale of petroleum products.

Source: Based on data from Motor Vehicle Mfgs. Assn., Federal Highway Administration, and NPN estimates for 1982 and 1983.

How Stations Rank in Sales

(Billions of Dollars)

	1982	%Change '82-'81	1981	%Change '81-'80	1980	%Change '80-'79	1979	%Change '79-'78
All Retail Stores	$1,070.2	3.0%	$1,038.8	9.1%	$951.9	6.4%	$894.3	12.0%
Food Group	249.9	5.2	237.6	9.5	217.0	10.8	195.8	12.2
Automotive Group	189.3	4.8	180.7	11.3	162.3	(8.5)	177.3	8.3
General Merchandise	131.5	3.1	127.5	8.8	117.2	6.8	109.7	10.3
Eating and Drinking Places	103.6	10.1	94.1	9.7	85.8	7.8	79.6	8.4
Gasoline Service Stations	**98.1**	**(3.5)**	**101.7**	**8.7**	**93.6**	**27.9**	**73.2**	**20.2**
Apparel Group	94.2	2.9	47.8	7.7	44.4	4.7	42.4	12.2

Source: Survey of Current Business, Department of Commerce, Vol. 63, No. 1, January, 1983.

Personal Consumption Expenditures

	(Billions of Dollars)					Seasonally Adjusted at Annual Rate—1982			
	1982	%Change '82-'81	1981	%Change '81-'80	1980	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Total Expenditures	$1,972.0	7.0%	$1,843.2	10.2%	$1,672.8	$1,919.4	$1,947.8	$1,986.3	$2,034.6
Durable Goods	242.7	3.5	234.6	10.7	211.9	237.9	240.7	240.3	251.7
Automobiles	106.2	7.7	98.6	9.7	89.9	103.2	103.3	104.3	114.1
Furniture	92.7	(0.7)	93.4	10.4	84.6	91.0	93.2	92.7	94.0
Other Durable	43.7	2.6	42.6	15.1	37.0	43.7	44.2	43.3	43.6
Nondurable Goods	762.7	3.8	734.5	8.7	675.7	749.1	755.0	768.4	778.3
Food	397.8	6.0	375.3	8.6	345.7	387.9	395.0	401.3	406.8
Clothing and Shoes	118.6	3.5	114.6	9.4	104.8	117.5	118.4	119.1	119.5
Gasoline and Oil	**33.9**	**(3.0)**	**96.8**	**8.8**	**89.0**	**95.3**	**91.3**	**94.2**	**94.9**
Fuel Oil and Coal	17.6	10.7	19.7	0.5	19.8	17.3	17.3	18.4	17.6
Other Nondurable	152.4	3.0	147.9	8.6	136.2	148.4	150.4	153.8	157.2
Services	966.6	10.6	874.1	11.3	785.2	932.4	952.1	977.6	1,004.5

Source: Survey of Current Business, Department of Commerce, Vol. 63, No. 1, January, 1983.

New Stations vs. Closed Stations

	1982	1981	1980	1979	1978	1977	1976	1975	1974	1973
New Stations	326	341	169	286	353	284	319	206	206	1,177
Deactivated Stations	3,710	4,538	3,380	3,724	5,138	5,683	5,676	4,127	6,041	9,342

(a) API definitions: A service station is defined as a retail outlet at which 50% of the dollar volume is from gasoline and related products; a newly constructed outlet is defined as one that has been erected completely on vacant land or is new on the site. This category does not include rebuilds. Permanently deactivated outlets are those where equipment and identification have been removed, and where re-opening as a service station is no longer contemplated.

Source: American Petroleum Institute, New Construction Report, March, 1983.

Keeping track of service station additions and deletions is like watching a fisherman's bobbin on rippling waters: It's really hard to tell when the movement is up or down. National data show that the service station population is declining. But these figures are based on percentages rather than nose counts. American Petroleum Institute, on the other hand, gets confidential reports from 28 or so companies on new construction and deactivations during the calendar year (above).

The figures show that new construction slowed down again in 1981—a total of 326 new stations versus 341 in 1981. The bottom year seems to be 1980, when only 169 stations were constructed. The peak year was back in 1972 when more than 1,600 new stations were added to the nation's total.

Deactivations declined in 1982 also, a substantial 18.2% decrease from 1981. But then again, the 1981 total was up 34% over the 1980 total of 3,380. The peak year for deactivations came in 1973 in the fallout of the oil embargo when 9,342 stations were cast aside by the companies participating in the API construction/deactivation survey.

The figures themselves are deceiving, however. As indicated in the footnote, they do not include rebuilt or modernized stations, or those that have replaced razed units.

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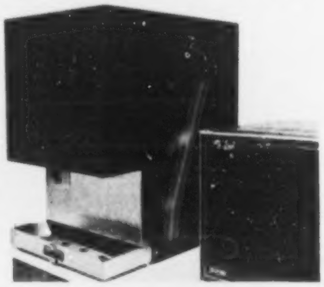

SPECIFICATIONS

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30	16	24	115	1	60	1.7	50 lbs.	68 lbs.

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Credit-Card Sales—Boom or Bust Coming Up?

With the surcharge, free-card and no-card policies of a number of majors, the oil company credit card picture changed vastly in 1982. But figures just compiled and released for 1981 offer an appropriate benchmark for comparing results of these new company tactics.

As results become known, it may be that 1981 was the oil industry's banner year in the credit card sales department, with various new policies tending to dampen the volume of card transactions.

The Nilson Report, a private letter to top merchandising executives, isn't all that pessimistic, however. This is what it had to say in its December 1982 special report on the oil industry:

"Compared to 119-million in 1979, oil company credit cards in circulation at the end of 1981 totaled 101.2-million, which was the low point of the past decade.

"The industry is expected to gain back another 10-million or so as companies prepare to convert as many credit cards as possible to electronic payment cards.

"Credit cards, cash discounts and full service at service stations are on the way out, but not immediately, as these changes can't take place until the petroleum industry goes through a major marketing and technological revolution over the next five years.

"Within three years, 90% of all gasoline dispensed at service stations will be self-service. By 1987, all of the major petroleum marketers will have phased out 85% of their credit systems in favor of debit-card systems and at least 10% of all gasoline dispensed at self-service stations will be activated by plastic cards.

"Within 10 years, all but a few stations will be using card-controlled fuel systems exclusively and will run completely unattended."

In 1981, according to *The Nilson Report*, Texaco still had more credit cards in use than any other oil company, but Exxon's plastic garnered the No. 1 spot in dollar volume of sales.

Approximately $25-billion in oil company credit card sales were reported by the top 20 issuers in 1981—with the number of cards outstanding totaling 101-million, 18-million less than in 1979. [See 1982 *NPN Factbook*, Page 103]

The latest Nilson survey is the first issued in about two years, making 1979 the last previous year for which industry-wide statistics were recorded.

Taking note of the many changes which occurred in 1982, including Arco's abandonment of its credit card, publisher Spencer Nilson acknowledges that the contemporary credit card situation is in such a state of flux that it is almost impossible to keep track.

Nilson doesn't foresee the day coming when all major oil companies will do as Arco did. Nor is he convinced that the discount-for-cash programs contrived by Exxon, Mobil, Amoco and others will last for long.

"Credit cards will always play a role in oil marketing," he says. "As for cash discounts, I don't know of any industry where they lasted forever. Supply-demand factors eventually even these things out."

In addition to the $25-billion in sales on oil company cards, sales generated by bank cards and travel/entertainment cards such as American Express brought 1981's grand total of oil-channel credit card sales to $26.9-billion. The more or less comparable figure in 1979, according to Nilson's data, was $23-billion—revealing a 17% rise in card revenues for the two-year period.

Texaco, which reported a total of 17.7-million credit cards in use in 1979, had only 13-million active cards in 1981. A company spokesman explains that this apparently resulted from re-issuance of cards with two-year expiration dates and the weeding out of cardholders who had not used their accounts during that period.

Amoco, Exxon, Shell, Mobil and Gulf, respectively, were next in line in the first half dozen.

In dollar sales, however, Exxon topped them all with a volume of $3.5-billion.

Amoco was next, only a hoot and holler away. Others in the $1-billion-plus class were, in descending order, Shell, Texaco, Mobil, Chevron, Gulf, Union, Arco and Standard of Ohio.

20 Largest Oil Company Card Issuers—1981

	Oil Company Credit Cards						
Oil Companies	**Total Cards (millions)**	**Total Accounts (millions)**	**Accounts Billed Monthly (millions)**	**Sales Volume ($millions)**	**Bank Card Sales Volume ($millions)**	**T&E Card Sales Volume ($millions)**	**Total Credit Sales ($millions)**
Texaco	13.00	7.00	3 00	$ 2,600.00	—	—	$ 2,600.00
Amoco	12.50	6.90	3.60	3,300.00	—	$20.00	3,320.00
Exxon	11.90	6.60	3.60	3,500.00	—	—	3,500.00
Shell	11.50	6.00	3.50	2,700.00	$ 400.00	—	3,100.00
Mobil	11.30	5.80	3.00	2,500.00	—	—	2,500.00
Gulf	10.00	5.00	2.30	2,100.00	—	—	2,100.00
Chevron	8.00	4.30	2.60	2,400.00	400.00	—	2,800.00
Union	5.90	3.50	2.10	1,800.00	274.00	—	2,074.00
Sunoco/DX	4.80	3.00	1.00	750.00	110.00	35.00	895.00
Phillips	3.70	2.20	.90	780.00	195.00	—	975.00
Sohio	2.10	1.20	.90	1,100.00	69.00	—	1,169.00
Citgo	1.60	1.00	.40	270.00	80.00	—	350.00
Conoco	1.30	1.00	.40	310.00	25.00	—	335.00
Marathon	.80	.50	.20	150.00	—	—	150.00
Diamond	.70	.50	.10	140.00	30.00	10.00	180.00
Fina	.60	.40	.20	162.00	—	—	162.00
Total	.50	.30	.20	215.00	145.00	—	360.00
Champlin	.40	.20	.07	67.00	20.00	—	87.00
Kerr-McGee	.40	.20	.08	79.00	18.00	—	97.00
Ashland	.20	.10	.06	57.00	60.00	—	117.00
Totals	**101.20**	**55.70**	**28.41**	**$24,980.00**	**$1,826.00**	**$65.00**	**$26,871.00**

Cards discontinued in 1982: Arco—6,000,000; Getty—1,200,000; Pennzoil—8,000.
Source: The Nilson Report, December, 1982.

Convenience Store Gasoline Sales Grow 21.4% in 1982

For the seventh year in a row, retail gasoline operations in the convenience store industry have proved to be such a dynamic force that they may one day dominate the small-food-store universe.

This is becoming more apparent with each annual report of John F. Roscoe's "Dollars Per Day Survey," the latest of which was issued in mid-February. Roscoe is a C-store operator himself, based in Concord, Calif. His chain includes 160 stores in five western states [NPN—Jan. '83, p22].

Technically, Roscoe's survey embraces only 11 publicly owned chains. But because the 12,400 stores owned by the chains represent almost one-third of the industry's presumed population of 39,000, they are considered to be a good indicator.

Roscoe's 1982 survey shows that 5,799 of the 12,400 stores, or 46.76%, marketed gasoline in the preceeding 12 months. This is an increase of 2.31% over 1981 totals. Significantly, only 21.16% of the chains' stores retailed gasoline in 1975; thus this percentage has more than doubled in the short space of seven years. [See table on page 110.]

The 11 chains sold 2,112,975,731 gal. of gasoline in 1981 and first-half '82, worth a grand retail total of $2,603,083,648. This is an increase of 12% in gallonage over 1981, and a 21.4% rise in sales dollars.

Among the 11 chains, Dallas-based Southland Corp. ranked No. 1 in the number of stores (7,002); the number of gasoline units (2,517); total gallonage (956-million gal.), and retail dollars ($1.2-billion). Light years away was second-place Munford, Atlanta, Ga., with $335-million in sales. Munford was the only one of the 11 chains to generate fewer sales dollars in 1982 than 1981, falling 5.8%, according to Roscoe.

He notes that 47% of the stores owned by the 11 chains market gasoline. If that percentage is projected to the generally agreed-upon C-store population of about 39,000, more than 18,000 C-stores are selling gasoline nationwide, he concludes. He also theorizes, on the same basis, that C-stores now control 6.98% of the national market.

According to Roscoe's report, gross sales for the 11 chains in 1982 totaled $8.1-billion, of which $5.5-billion was for food and $2.6-billion for gasoline. The year-ago figures were $7.0-billion overall, with $4.8-billion coming from groceries and $2.1-billion from gasoline. Thus, total sales were up 30.7% in 1982, with groceries gaining 13.5% and gasoline dollars up 21.4%.

(Gasoline aside, one of the primary aims of the annual Roscoe report is to rank the chains in terms of their profitability—on a dollars-per-day basis. His formula shows that Shop & Go, of Mango, Fla., was the most profitable chain for the second consecutive year, and for the fourth time in 12 years. It was followed by Circle K, Southland, National Convenience and Lil' Champ among the top five.)

Roscoe noted in his commentary that the C-store industry is experiencing an upheaval similar to what gasoline marketing has seen in recent years:

"Changes in economic conditions and consumer awareness of these changes have forced the companies to re-evaluate their operating practices and expansion plans.

"Almost everyone now believes the operating environment has changed. Some operators accept the facts but are unclear about the solution. Some believe their troubles are caused by general economic conditions and that things will improve once the good old days return.

"Personally, I believe this approach is unjustified. Humpty Dumpty has fallen off the wall, and we'll never put Humpty Dumpty together again."

What the industry must do now is "shuck off the past," he said.

The chains, he added, now know they can't afford to operate old, run-down, low-volume, unprofitable stores. Many of these have been closed. More importantly, the successful chains seem to be replacing these stores with new stores that are generating higher sales volumes.

All this may sound familiar to gasoline marketers who have seen their universe shrink steadily since 1972, with small stations being eliminated and big pumpers springing up in their place.

Said Roscoe, looking ahead: "The future looks much brighter . . . One of the problems of the past has been the ease of entry into the business. That has changed. You can't start one store today for what you could start a hundred-store chain a few years ago.

"It's going to be a better business for those who change and remain in business. There will be fewer stores with bigger sales, higher profits, and lower returns on equity than in the leveraged past."

Nine-Year Box Score on Growth

Survey Year	No. of Stores	Net Growth	No. with Gasoline Units	Gasoline Units Added In Year	% of Stores with Gasoline Units
1982(a)	12,400	107	5,799	393	46.76%
1981	12,445	205	5,533	442	44.45
1980	13,167	247	5,630	447	42.76
1979	12,920	313	5,153	569	39.88
1978	12,597	644	4,584	792	36.38
1977	11,953	360	2,792	959	31.72
1976	11,356	672	2,786	557	24.53
1975	10,143	928	2,147	194	21.16
1974	9,258	1,042	1,964	—	21.21

(a) Data includes either full-year 1981 or half-year 1982 for participating chains, depending upon fiscal years involved.

Source: 12th annual Dollars-Per-Day Survey, John F. Roscoe.

Growth of Gasoline Units in 1982

1982 Profit Ranking	Company	No. of Stores	No. of Gasoline Units	% with Gasoline	Gasoline Units Added In Year	No. of Stores Added In Year
1	Shop & Go	405	268	66%	3	(7)
2	Circle K	1,211	780	64	27	17
3	Southland	7,002	2,517	36	271	107
4	National Convenience	922	585	63	107	90
5	Lil' Champ	162	66	41	22	14
6	Dillon	349	250	72	8	11
7	Li'l General	460	208	45	4	(14)
8	Mini Mart	114	38	33	9	2
9	Sunshine Jr.	354	307	87	19	1
10	Conna	434	309	71	(5)	18
11	Munford	987	471	48	(72)	(132)
Totals		**12,400**	**5,799**	**47%**	**393**	**107**

Source: 12th annual Dollars-Per-Day Survey, John F. Roscoe.

Distribution by Establishments—1981

	Franchising Companies	Establishments		Sales	
Size Groups	Number	Number	Per Cent	($000)	Per Cent
Total	**29**	**15,524**	**100.0**	**8,405,986**	**100.0**
1001 and Greater	4	10,082	65.0	5,816,407	69.2
501 - 1000	4	2,972	19.1	1,369,205	16.3
151 - 500	6	1,808	11.6	983,569	11.7
51 - 150	7	541	3.5	176,273	2.1
11 - 50 0 - 10	8	121	0.8	60,532	0.7

Source: "Franchising in The Economy, 1981-1983." U.S. Department of Commerce, January, 1983.

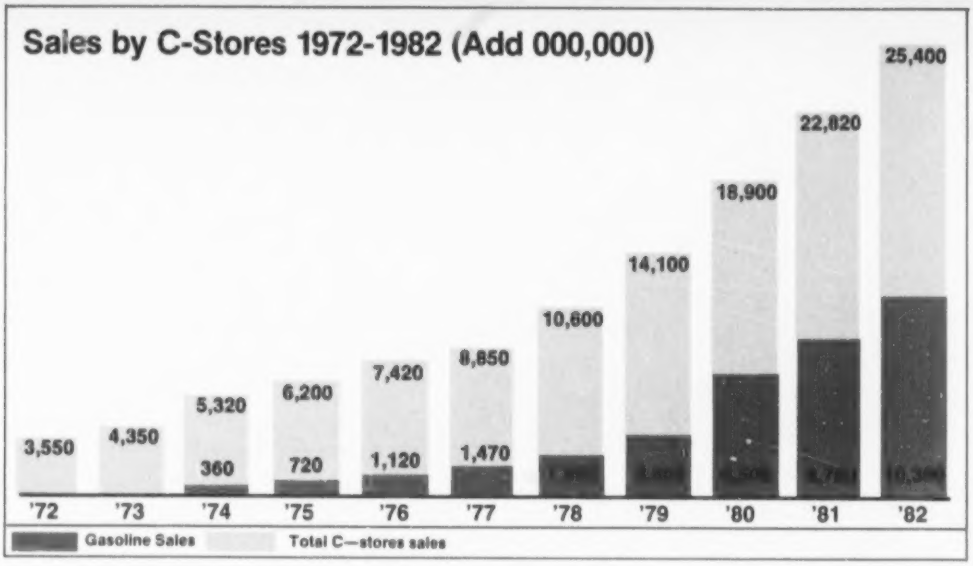
Government Franchise Projections

				Percent Changes	
	1983	1982	1981	1982-83	1981-82
Total number of establishments	17,276	16,256	15,524	6.3	4.7
Company-owned	10,205	9,741	9,356	4.8	4.1
Franchisee-owned	7,071	6,515	6,168	8.5	5.6
Total sales of products and services (Add $000,000)	10,168	9,252	8,406	9.9	10.1
Company-owned	5,847	5,359	4,897	9.1	9.4
Franchisee-owned	4,320	3,893	3,509	11.0	11.0

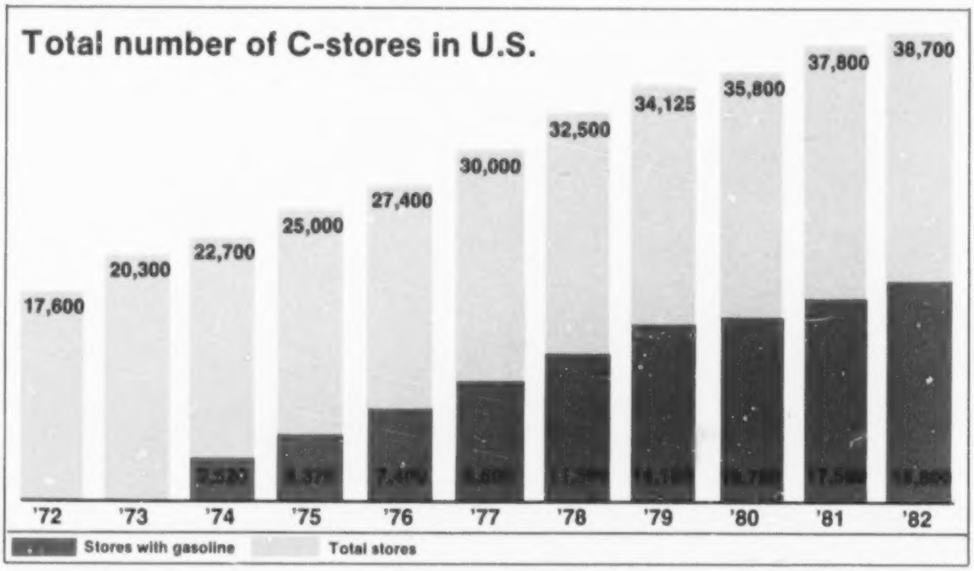
Convenience Store Population—1981

	Population	No. of Households	No. of Convenience Stores	Store Sales (Add 000,000)	
	(Add 000)	(Add 000)		In-Store	Gasoline
New England	**12,439**	**4,492**	**1,776**	**$ 644**	**$ 351**
Maine	1,147	412	128	50	40
New Hampshire	953	343	114	45	35
Vermont	523	188	42	13	11
Massachusetts	5,750	2,072	920	360	150
Rhode Island	949	349	155	44	36
Connecticut	3,117	1,128	417	132	79
Middle Atlantic	**36,713**	**13,490**	**3,555**	**1,609**	**483**
New York	17,445	6,455	962	437	203
New Jersey	7,395	2,704	1,097	564	46
Pennsylvania	11,873	4,331	1,496	608	234
East North Central	**41,914**	**15,123**	**4,596**	**1,736**	**892**
Ohio	10,819	3,923	1,969	776	286
Indiana	5,537	1,993	559	169	168
Illinois	11,480	4,194	755	339	161
Michigan	9,318	3,292	815	325	135
Wisconsin	4,760	1,721	498	127	142
West North Central	**17,358**	**6,427**	**2,424**	**817**	**634**
Minnesota	4,127	1,496	645	212	164
Iowa	2,932	1,085	473	99	121
Missouri	4,967	1,855	587	254	122
North Dakota	661	237	49	12	9
South Dakota	697	254	82	32	26
Nebraska	1,587	598	174	49	50
Kansas	2,387	902	414	159	142
South Atlantic	**38,059**	**13,927**	**9,647**	**2,887**	**2,396**
Delaware	603	217	109	41	19
Maryland	4,262	1,513	570	284	84
District of Columbia	615	262	106	46	10
Virginia	5,465	1,942	1,159	480	234
West Virginia	1,987	725	302	107	98
North Carolina	6,010	2,143	1,434	327	442
South Carolina	3,209	1,087	878	263	262
Georgia	5,619	1,991	1,477	366	374
Florida	10,289	4,047	3,612	973	873
East South Central	**14,977**	**5,303**	**3,184**	**995**	**1,025**
Kentucky	3,736	1,322	698	299	286
Tennessee	4,705	1,714	1,041	350	344
Alabama	3,966	1,397	865	197	229
Mississippi	2,570	870	580	149	166
West South Central	**24,537**	**8,791**	**6,622**	**2,655**	**1,796**
Arkansas	2,348	863	398	101	106
Louisiana	4,305	1,482	847	274	242
Oklahoma	3,110	1,186	1,120	331	326
Texas	14,774	5,260	4,257	1,949	1,122
Mountain	**11,934**	**4,292**	**2,493**	**1,052**	**472**
Montana	804	297	171	57	43
Idaho	987	348	151	71	30
Wyoming	497	180	94	28	21
Colorado	3,009	1,137	537	252	106
New Mexico	1,354	471	352	141	99
Arizona	2,893	1,046	826	353	115
Utah	1,537	488	199	76	37
Nevada	853	325	163	74	21
Pacific	**32,751**	**12,354**	**3,503**	**1,725**	**651**
Washington	4,264	1,609	483	246	115
Oregon	2,723	1,042	421	184	59
California	24,345	9,241	2,452	1,238	460
Hawaii	999	323	72	27	10
Alaska	420	139	75	30	7
Total	**230,682**	**84,199**	**37,800**	**$14,120**	**$8,700**

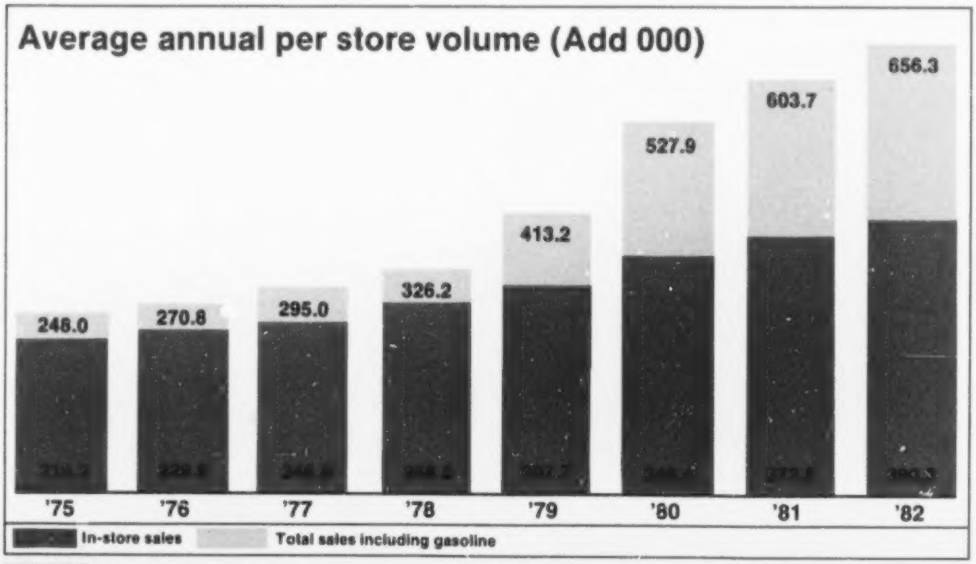
Source: C-Store Business Research and Data Center, October, 1982.



Sales by C-Stores 1972-1982 (Add 000,000)



Total number of C-stores in U.S.



Average annual per store volume (Add 000)

Source: C-Store Business, October 1982.

Oil Jobbers in '82: Some Vital Statistics

A Hunter Publishing Co. survey, completed in April of 1982, confirms that oil jobberships are big dollar-volume businesses. More than one-quarter of the jobbers responding to the Hunter questionnaires said they had annual sales volumes in excess of $10-million. Another 33% said they ranged between $3-million and $10-million a year. Only 13% reported dollar volumes below the $1-million a year mark.

The average jobber in the Hunter/*NPN* sample supplied 20.7 service stations in 1982. Of these, 27.5% were owned and operated by the jobber, 18.4% were owned and leased to others.

Jobbers delivered a mean average of 1,216,600 gal. of gasoline per month. The average jobber owns and operates 16.8 vehicles, including delivery units and passenger cars.

This profile was prepared for Hunter by Great Lakes Marketing, an independent research firm. Great Lakes mailed detailed questionnaires to 2,112 domestic oil jobbers in January and received 1,219 usable responses—a well-above-average response rate of 57.7%. The survey sample was carefully designed to reflect the geographic distribution of the total jobber universe.

Highlights of the survey are as follows:

Jobber Annual Sales Volume

Sales Volume	Number of Respondents	% of Respondents
Under $500,000	51	4.7%
$500,000-$1 million	91	8.3
$1-$3 million	297	27.2
$3-$5 million	165	15.1
$5-$10 million	195	17.9
Over $10 million	292	26.8

Monthly Gasoline Deliveries *(All outlets)*

Gal. Delivered Per Month (Add 000)	Number of Respondents	% of Respondents
Under 60	142	14.8%
60-99.9	105	10.9
100-199	150	15.8
200-299	108	11.2
300-399	76	7.9
400-499	65	6.8
500-699	92	9.5
700-999	60	6.3
1,000-1,999	86	8.9
2,000-2,999	26	2.7
3,000-9,999	37	3.9
10,000 and over	12	1.3
Mean Average		**1,216,600**

Number of Stations Supplied

Number of Stations	Number of Respondents	% of Respondents
None	166	13.5%
1-4	349	28.6
5-9	222	18.2
10-14	135	11.1
15-19	96	7.9
20-29	88	7.2
30-39	51	4.3
40-49	30	2.4
50 and Over	82	6.8
Average		**20.7 Stations Supplied**

Jobber Owned and Operated Stations

Number of Stations	Number of Respondents	% of Respondents
None	513	42.0%
1	283	23.1
2	104	8.5
3	70	5.7
4	48	3.9
5	31	2.5
6	20	1.6
7	19	1.6
8	18	1.5
9	8	.7
Over 10	105	8.9
Mean Average		**5.7**

Jobber Owned Leased Stations

Number of Stations	Number of Respondents	% of Respondents
None	692	56.7%
1	137	11.2
2	95	7.8
3	55	4.5
4	43	3.5
5	37	3.0
6	30	2.5
7	15	1.2
8	16	1.3
9	13	1.1
Over 10	86	7.2
Mean Average		**3.8**

Independently Owned Stations Supplied

Number of Stations	Number of Respondents	% of Respondents
None	427	34.9%
1	132	10.8
2	95	7.8
3	67	5.5
4	68	5.6
5	47	3.9
6	43	3.5
7	33	2.7
8	31	2.5
9	23	1.9
10 and Over	253	20.9
Mean Average		**9.3**

Source: NPN/Hunter Publishing Co., April, 1982.

Average Annual Yields from 1 bbl. of Crude Oil

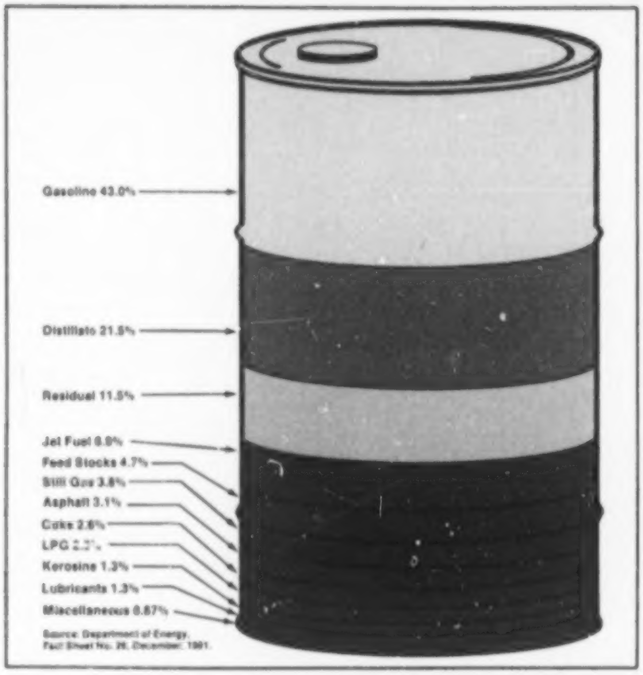
In looking at this annual yield pattern, it must be remembered that some refineries can maximize gasoline production (as high as 60%) and some can maximize fuel oils (as high as 50%), thus varying their output extensively. Data used in this concept are from 1979 averages, as compiled by Department of Energy.

Here are the yields for a standard 42-gal. bbl.:

Product	Gallons	Product	Gallons
Gasoline	18.06	Asphalt	1.30
Distillate	9.03	Coke	1.09
Residual	4.83	LP-Gas	0.97
Jet Fuel	2.90	Kerosine	0.55
Feedstocks	1.97	Lubricants	0.55
Still Gas	1.60	Miscellaneous	0.67

(These yields total 43.52 gal. but are balanced out by the fact that 1.52 gal. of hydrogen are added during the refining processes.)

Legend has it that the 42-gal. bbl. dates back to the 15th century when King Edward IV of Norway standardized the herring barrel at 42 gal. Subsequently this became a standard for whiskey barrels in the U.S. The oil barrel was modeled after that in 1866 for all U.S. shipments. Canada uses an imperial gallon which is larger than the U.S. variety while overseas most countries use the metric system for weights and measures.



Source: Department of Energy, Fact Sheet No. 26, December, 1981.

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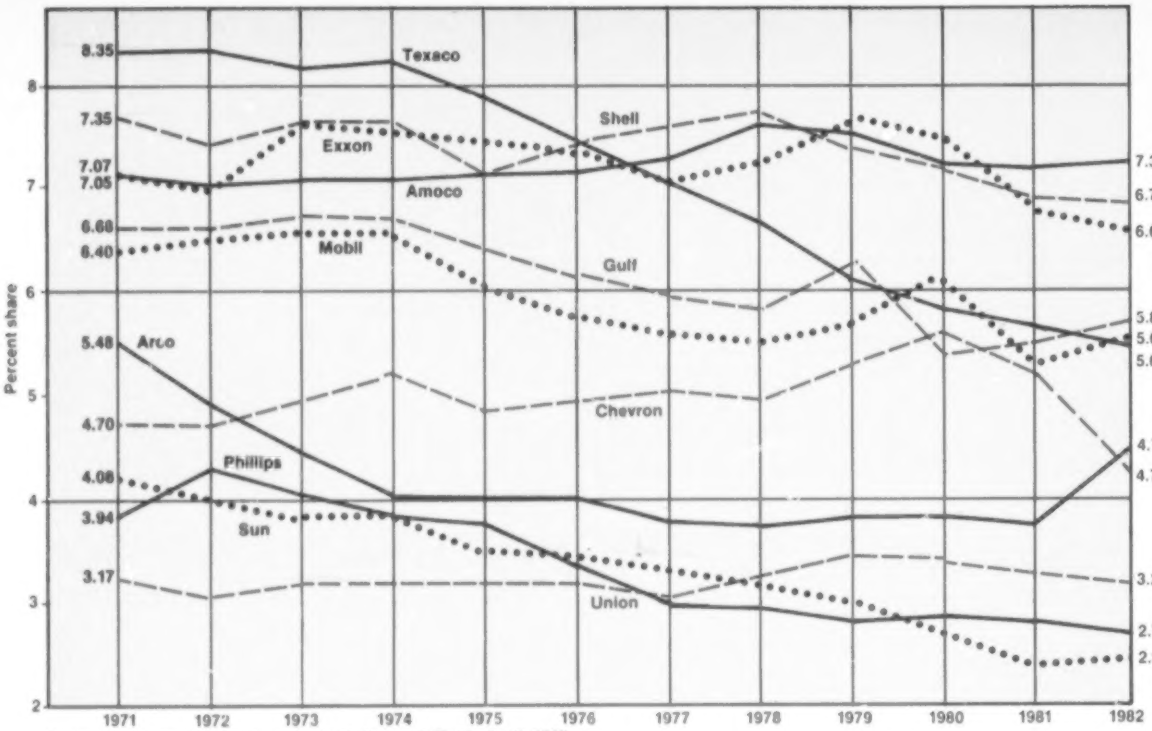


Souce: Lundberg Survey, Inc., North Hollywood, Calif., April, 1983.

Amoco Retains Lead as Top Gasoline Marketer

Despite the fact that it had pulled out of 11 states, Amoco retained its leadership in 1982 as the nation's No. 1 gasoline marketer. It finished well ahead of second place Shell and third place Exxon, which also wound up in that order in 1981. But Shell appeared to be coming on strong in the waning minutes of 1982 so some changes may be in the making for 1983; or, at least, a tighter horse race than the one just ended.

Lundberg Survey, Inc., which keeps tabs on gasoline consumption in the various states and on a company-by-company basis, is the prime authority for statistics on market shares. The illustration above shows the share trends over the past 10 years. Another set of illustrations in this share-of-market report, puts special focus on the eight leaders over the past three years.

Lundberg's preliminary report for 1982 said Amoco had a 7.36% share of the market for that calendar period. Shell had 6.78% and Exxon, 6.64%. Gulf, which had been in fifth place in 1981, moved up to fourth in 1982, leap-frogging Mobil and Texaco. Mobil, with 5.63%, beat out still declining Texaco, which had 5.6%, by a scant margin. Atlantic Richfield, eighth in the 1981, also moved up a notch to seventh, displacing Chevron.

Lundberg also noted that total gasoline consumption declined in 1982 for the fourth consecutive year. Here are the survey's totals (in millions of gal.): 1982[1]—100,690, down 1.6%; 1981—102,317, down 2.8%; 1980—105,228, down 4.7%; 1979—110,407, down 4.3%; and 1978—115,323. The year 1978 was the peak year for gasoline consumption.

Market-share reports are shown in the functional classification developed by Lundberg Survey in 1974. Companies are sorted in six categories identified by Roman numerals I through VI. They are defined as follows:

I. Integrated Marketers—Produce, refine, transport, and market in interstate commerce. Recognized in the petroleum industry as major companies in all of the states or regions in which they market with their own brand or brands.

II. Other Integrated Marketers—Transport and/or market in interstate commerce. Produce and refine also, but one or the other of these functions may be a less substantial part of the overall operation. Market in more than one state with their own brand or brands or supply private brands.

III. Suppliers—Transport and/or market in interstate commerce. May market directly and/or indirectly. May produce and/or refine, but neither function is a substantial part of the overall operation. Distributive functions are supported by exchanges or buying leverage.

IV. Marketers—Operate as autonomous entities, are not affiliated with supplying companies, and do not use suppliers' brands, bulk plants, or other facilities. May make accommodation sales to fellow Category IV marketers, but do not normally function as suppliers.

V. Cooperatives—Generally serve nonretail ranchers and farmers, although some engage in branded sales with pumps open to the public. May or may not be integrated.

VI. Miscellaneous and Unidentified—Unbranded, nonmarketing operations reporting net-taxable gallonages. Also sales unidentified as to category or brand.

National and state reports are based on all known source data for all petroleum marketers in the respective states. The national is an aggregate of the states.

Data are as of April 29, 1983. Information received later than that could change subsequent reports but not by much.

Lundberg Survey reports that data are obtained in a variety of ways, principally from state tax-collecting agencies, but also by direct inquiry.

Lundberg Survey sells state and regional market-share reports by the month on a subscription basis. The company's principal business is retail gasoline surveys, which the firm produces on representative cities across the nation.

National and Regional Market Shares

Share of the U.S. Market, 1982 Versus 1981

	Taxable Motor Gasoline Sales (Add 000)				% of National Market		
			Change				
	1982	1981	Gal.	%	1982	1981	Change in Points
I Integrated							
Amoco	7,404,869	7,455,161	−50,292	−0.67%	7.36%	7.28%	0.08%
Shell	6,824,168	7,038,980	−214,812	−3.05	6.78	6.89	−0.11
Exxon	6,680,471	6,962,816	−282,345	−4.06	6.64	6.81	−0.17
Gulf	5,889,698	5,827,567	62,131	1.07	5.85	5.69	0.16
Mobil	5,661,639	5,510,692	150,947	2.74	5.63	5.38	0.25
Texaco	5,646,559	5,932,319	−285,760	−4.82	5.61	5.77	−0.16
Arco	4,817,692	3,883,199	934,493	24.07	4.79	3.80	−0.99
Chevron	4,773,764	5,327,403	553,639	−10.39	4.74	5.21	−0.47
Union	3,273,914	3,385,768	−111,854	−3.30	3.25	3.31	−0.06
Phillips	2,763,761	2,949,301	−185,540	−6.29	2.75	2.88	−0.13
Sun	2,585,236	2,608,901	−23,665	−0.91	2.57	2.55	0.02
Total (Top 11)	**56,321,771**	**56,882,107**	**560,336**	**−0.98**	**55.96**	**55.59**	**0.37**
Others in Class I	8,823,307	9,322,470	499,163	−5.35	8.77	9.11	−0.34
Total	**65,145,078**	**66,204,577**	**1,059,499**	**−1.60**	**64.73**	**64.70**	**0.03**
II Other Integrated	—	—	—	—	—	—	—
III Suppliers	—	—	—	—	—	—	—
IV Marketers	—	—	—	—	—	—	—
V Cooperatives	—	—	—	—	—	—	—
VI Miscellaneous	—	—	—	—	—	—	—
Total (II-VI)	**35,497,442**	**36,112,480**	**−615,038**	**−1.70**	**35.27**	**35.30**	**−0.03**
Grand Total U.S.	**100,642,520**	**102,317,057**	**−1,674,537**	**−1.64**	**100.00**	**100.00**	—

By PAD Districts

	1982	1981	Gal.	%	1982	1981	Change in Points
PAD 1							
Class I (Integrated)	25,243,618	24,916,584	327,034	1.31%	25.08%	24.35%	0.73%
All other	10,315,066	10,729,714	−414,648	−3.86	10.25	10.49	−0.24
Total	**35,555,684**	**35,646,298**	**90,614**	**−0.25**	**35.33**	**34.84**	**0.49**
PAD 2							
Class I (Integrated)	17,691,765	18,380,037	−688,272	−5.30	17.58	17.96	−0.38
All other	13,144,631	13,749,335	−604,704	−3.23	13.06	13.44	−0.38
Total	**30,836,396**	**32,129,372**	**−1,292,976**	**−4.40**	**30.64**	**31.40**	**−0.76**
PAD 3							
Class I (Integrated)	8,463,960	8,928,044	−464,084	−5.20	8.41	8.72	−0.31
All other	6,460,374	6,020,623	439,751	7.30	6.42	5.88	0.54
Total	**14,924,334**	**14,948,667**	**−24,333**	**−0.16**	**14.83**	**14.60**	**0.23**
PAD 4							
Class I (Integrated)	1,420,595	1,518,444	−97,849	−6.44	1.41	1.48	−0.7
All other	1,894,567	1,886,545	8,022	0.43	1.88	1.84	0.4
Total	**3,315,169**	**3,404,989**	**−89,820**	**−2.64**	**3.29**	**3.32**	**−0.3**
PAD 5							
Class I (Integrated)	12,319,815	12,466,163	−146,348	−1.17	12.24	12.18	0.06
All other	3,688,622	3,721,563	−32,941	−0.88	3.67	3.64	0.03
Total	**16,008,437**	**16,187,726**	**−179,289**	**−1.11**	**15.91**	**15.82**	**0.09**

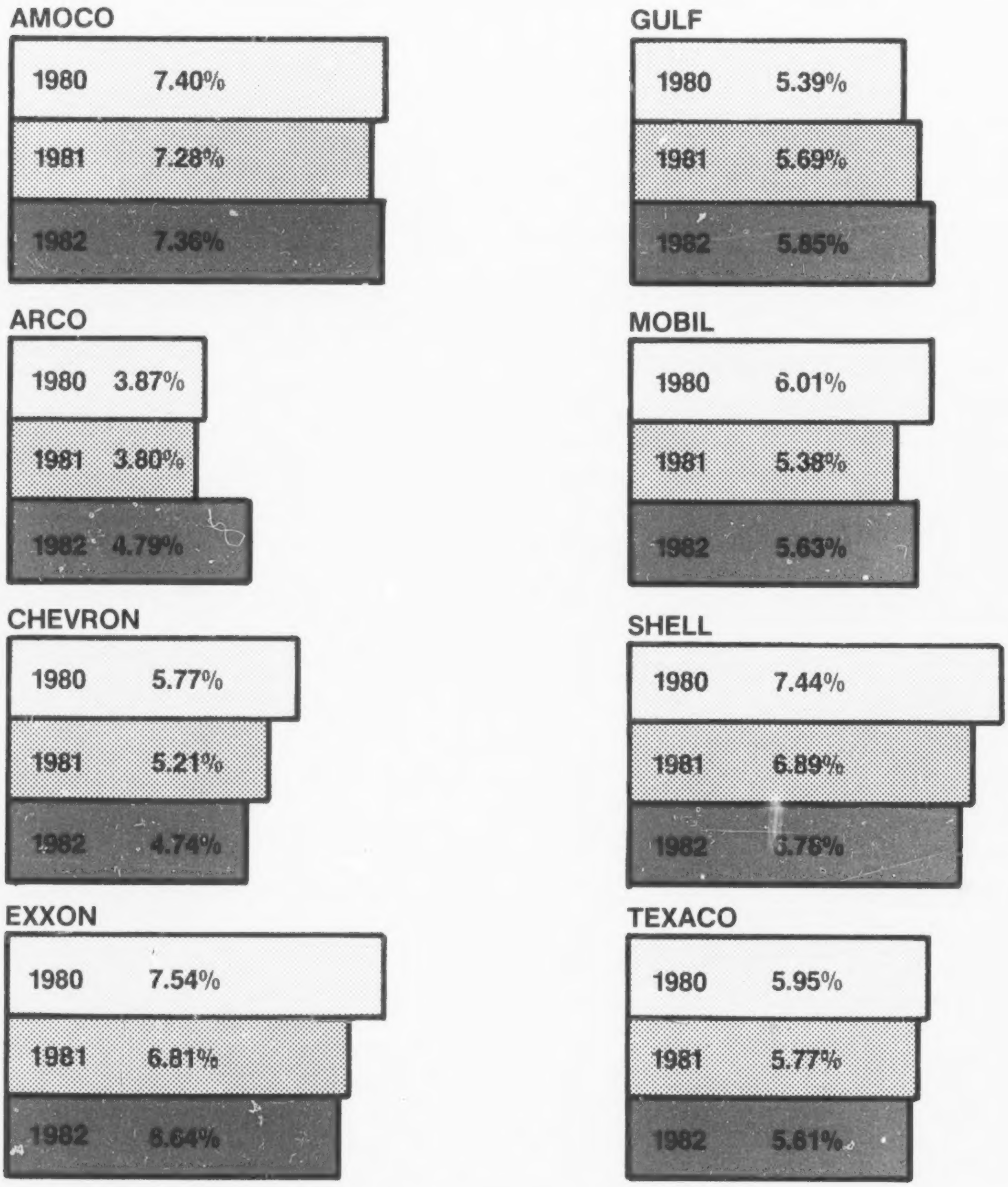
Source: The Lundberg Survey, May, 1983.

Top 11 Marketers: A Seven-Year Overview

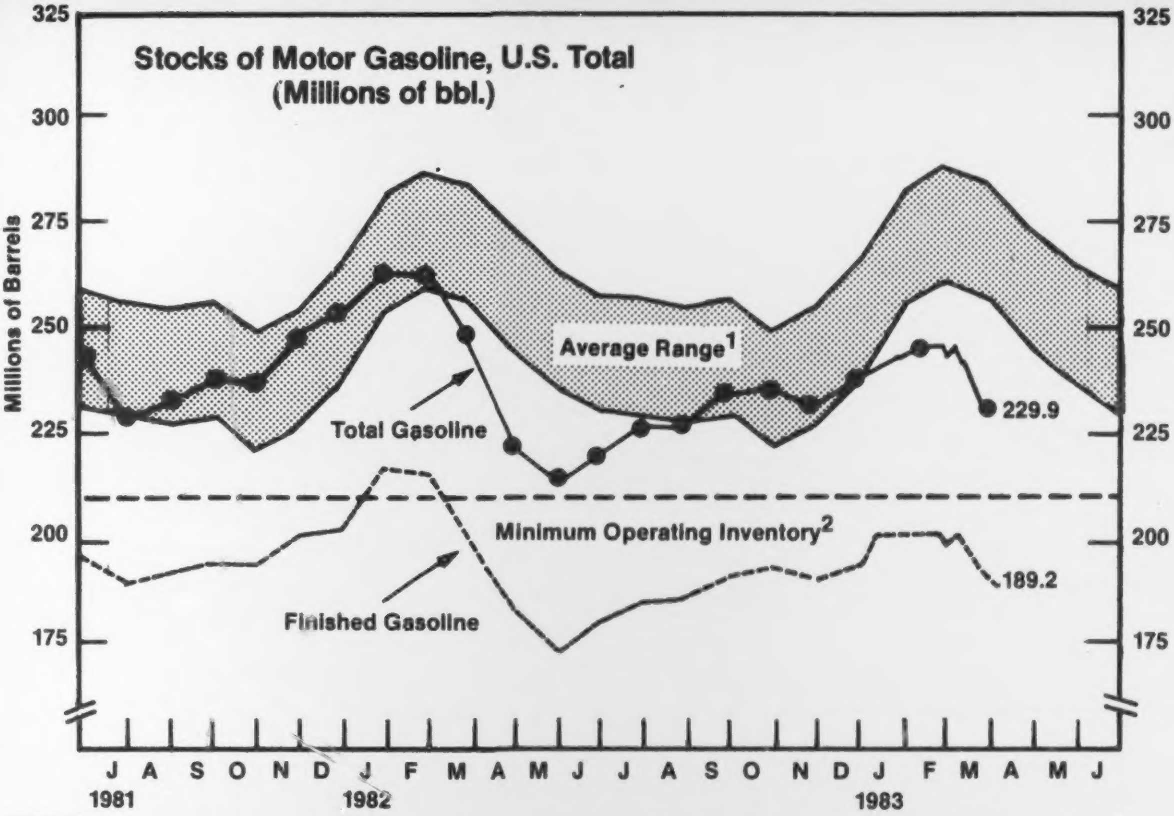
	1982		1981		1980		1979		1978		1977		1976	
	Rank	% Share	Rank	% Share	Rank	% Share	Rank	% Share	Rank	% Share	Rank	% Share	Rank	% Share
Amoco	1	7.36	1	7.28	3	7.40	2	7.48	2	7.71	2	7.30	4	7.20
Shell	2	6.78	2	6.89	2	7.44	3	7.30	1	7.70	1	7.53	3	7.36
Exxon	3	6.64	3	6.81	1	7.54	1	7.65	3	7.28	3	7.14	2	7.40
Gulf	4	5.85	5	5.69	7	5.39	4	6.36	5	5.83	5	5.91	5	6.11
Mobil	5	5.63	6	5.38	4	6.01	6	5.78	6	5.55	6	5.59	6	5.78
Texaco	6	5.61	4	5.77	5	5.95	5	6.01	4	6.75	4	7.11	1	7.50
Atlantic Richfield	7	4.79	8	3.80	8	3.87	8	3.89	8	3.79	8	3.85	8	4.00
Chevron	8	4.74	7	5.21	6	5.77	7	5.30	7	4.76	7	4.75	7	4.70
Union	9	3.25	9	3.31	9	3.50	9	3.49	9	3.28	11	3.08	11	3.24
Phillips	10	2.75	10	2.88	10	2.83	11	2.85	11	3.02	10	3.15	10	3.43
Sun	11	2.57	11	2.55	11	2.74	10	3.01	10	3.20	9	3.39	9	3.49

Source: Lundberg Survey, Inc., May, 1983 and prior reports.

The Top Eight: The Last Three Years



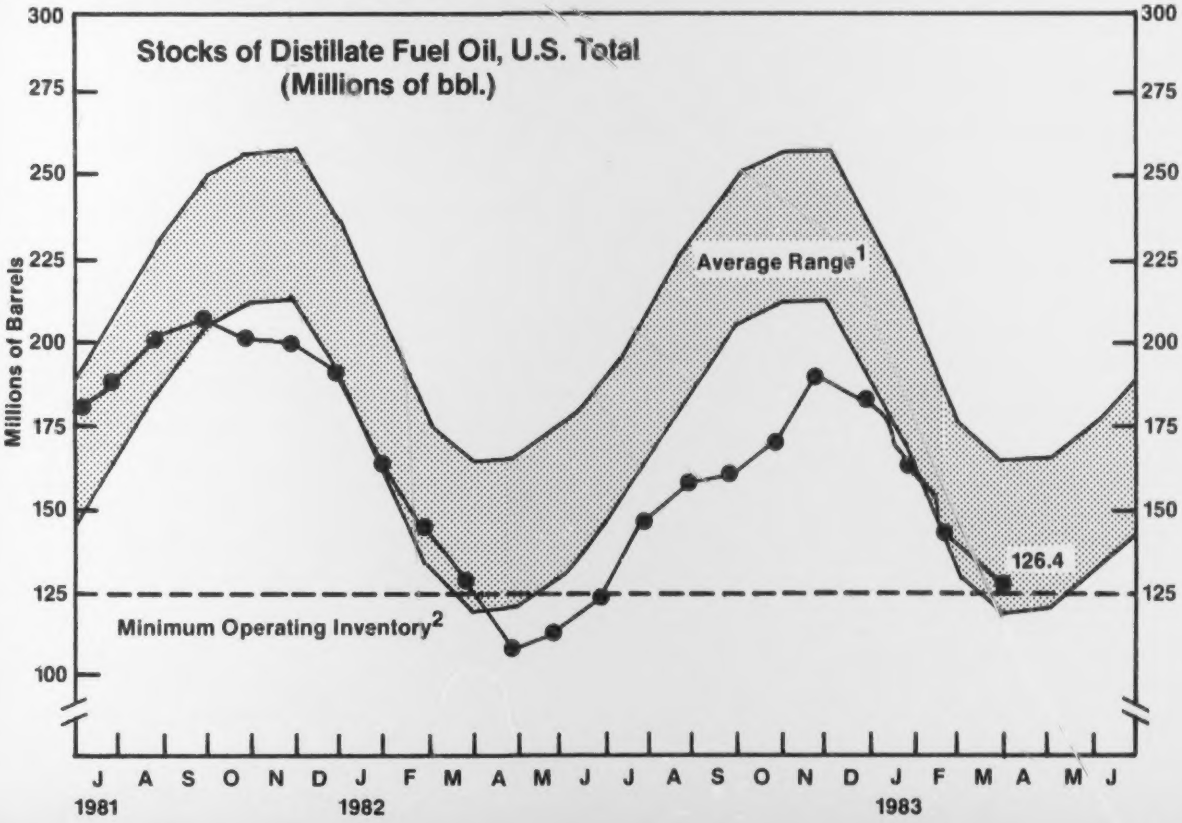
Source: Lundberg Survey, April, 1983.



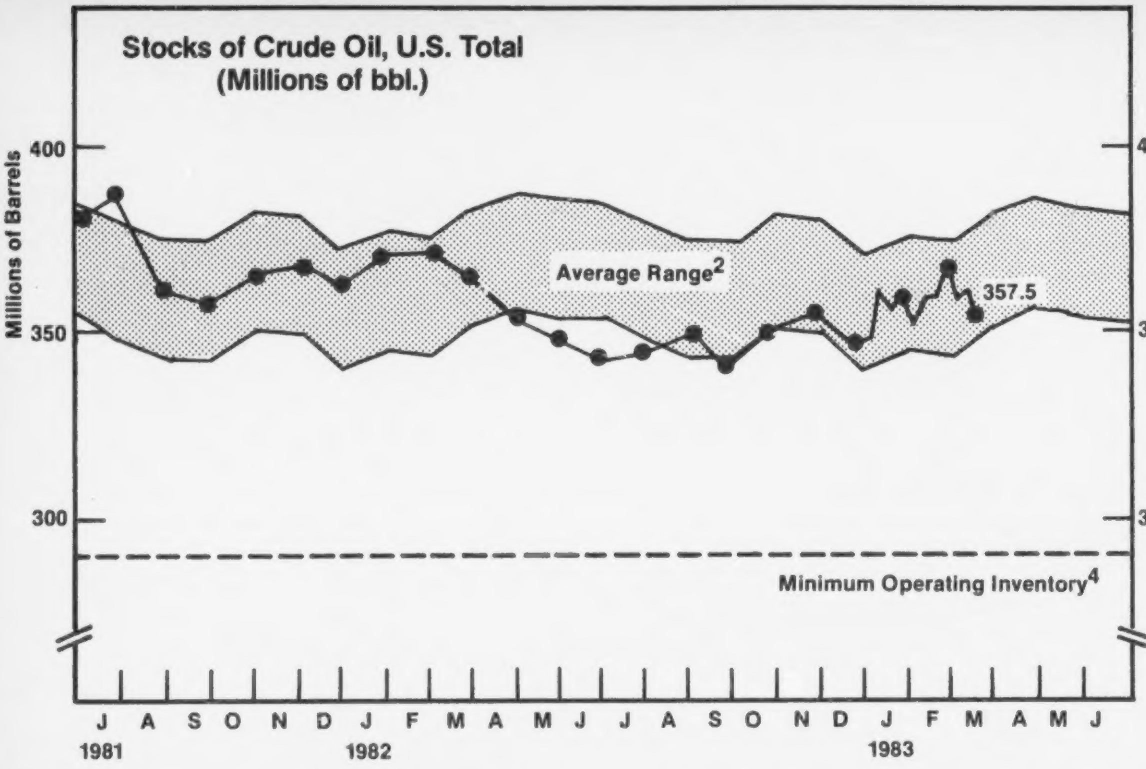
Stocks of Motor Gasoline, U.S. Total (Millions of bbl.)

Product stocks at the Primary Level include those held at refineries, in pipelines, and at major bulk terminals. They do not include stocks held in secondary distribution facilities such as jobber tanks, consumer tanks, and/or barges designed for consumer markets. (1) The average level and width of average range are based on three years of monthly data for the period of January 1977, through December 1979. The seasonal pattern is based on seven years of monthly data for the period of January 1973 through December 1979. (2) National Petroleum Council defines the Minimum Operating Inventory as the minimum level required for routine operation. By its definition, runouts and shortages could occur if inventory levels fall below that level for any extended period of time. See NPC's full report, issued in December 1979 for complete details on primary and secondary storage.

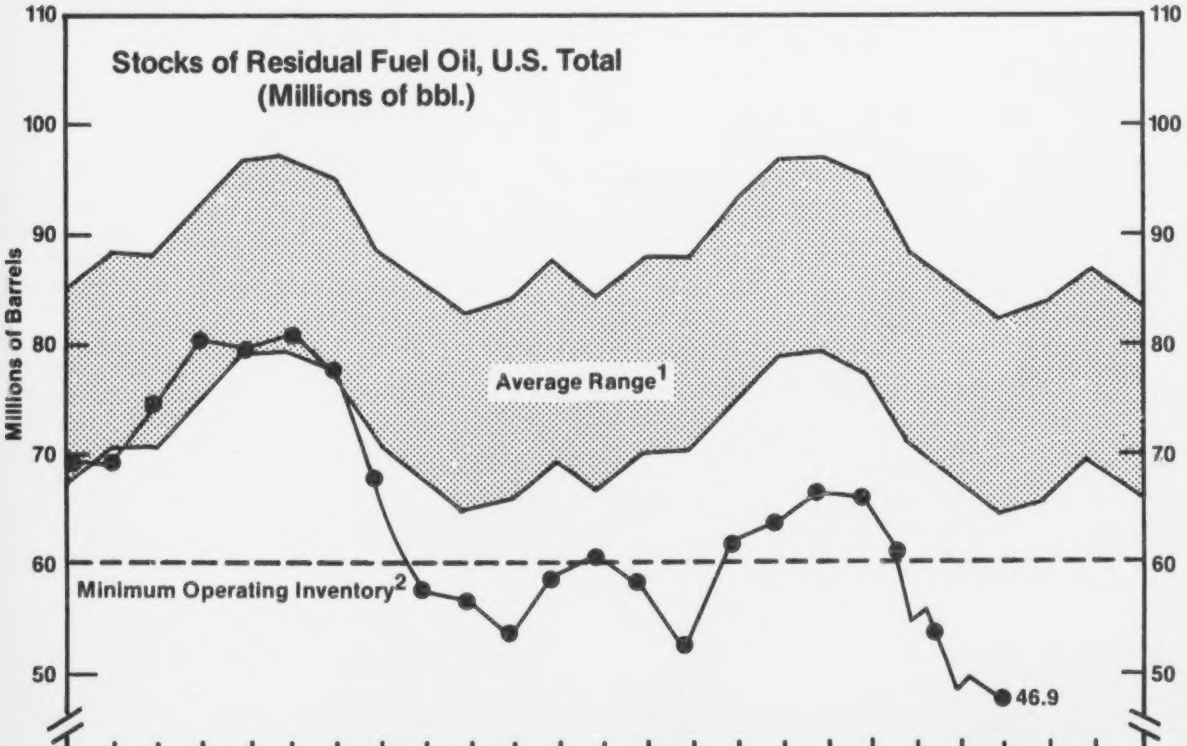
Source: Department of Energy, Weekly Statistical Reports, April, 1983.

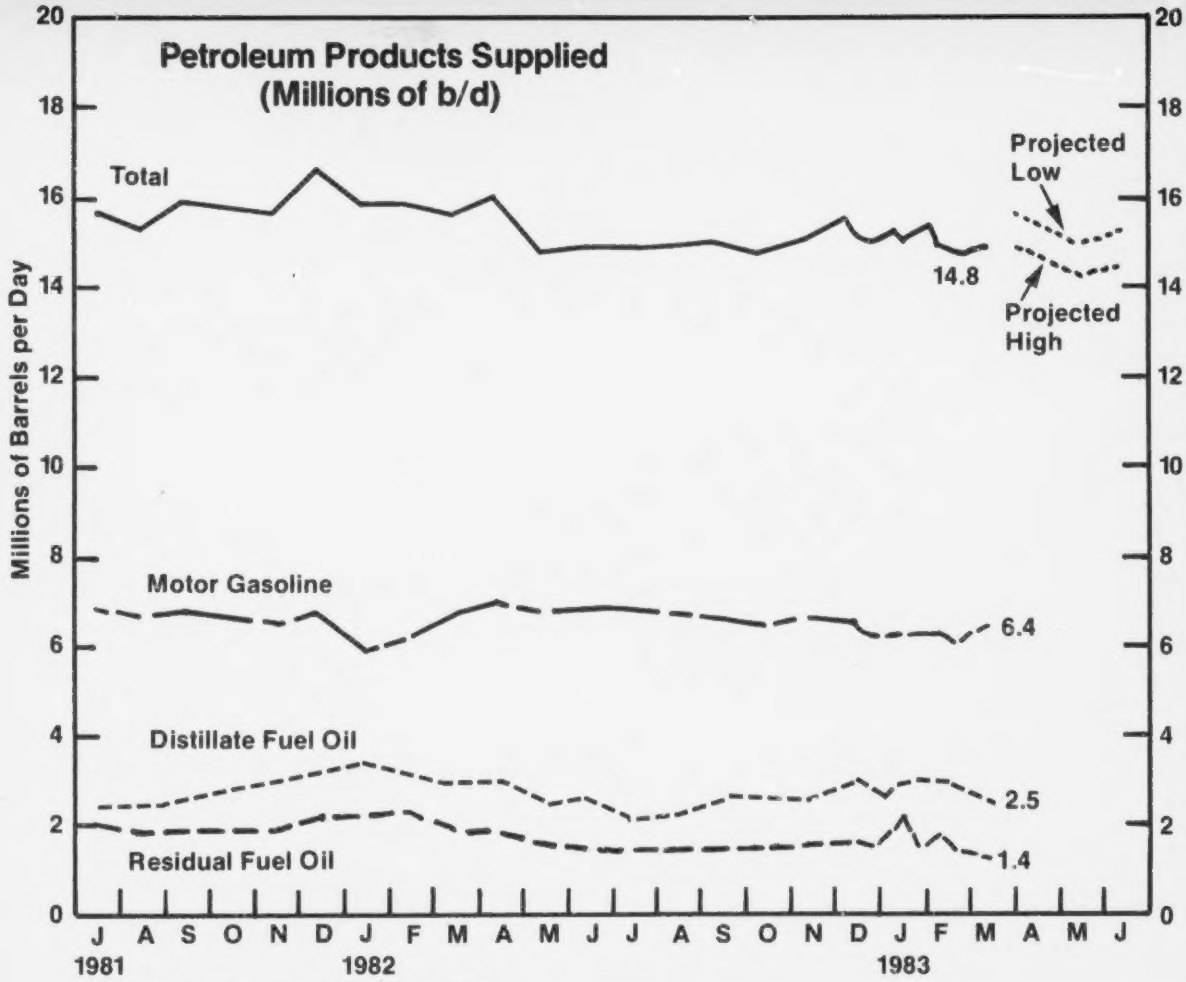


Stocks of Distillate Fuel Oil, U.S. Total (Millions of bbl.)



Crude Stocks at Primary Levels include those held at refineries, in pipelines, and in lease tanks, but do not include those held in the Strategic Petroleum Reserve operated by the U.S. Government. (1) The average level and width of average range are based on three years of monthly data for the period of January 1977, through December 1979. The seasonal pattern is based on seven years of monthly data for the period of January 1973 through December 1979. (2) National Petroleum Council defines the Minimum Operating Inventory as the minimum level required for routine operation. By its definition, runouts and shortages could occur if inventory levels fall below that level for any extended period of time. See NPN's full report, issued in December 1979 for complete details on primary and secondary storage.
Source: Department of Energy, Weekly Statistical Report, April, 1983.



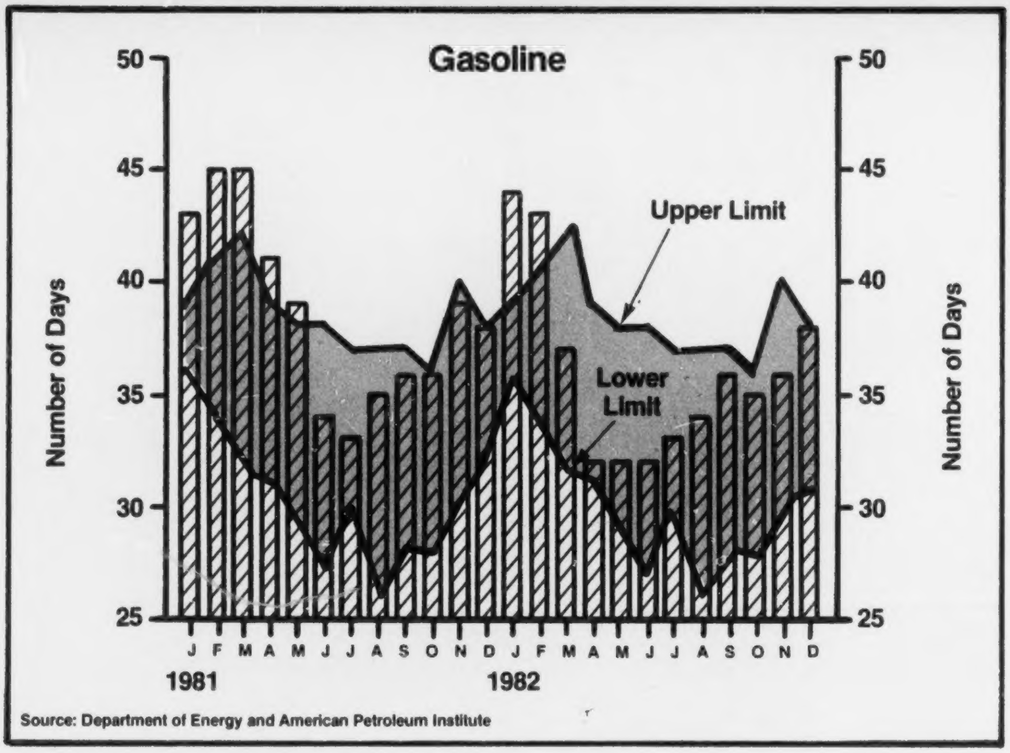


Source: Department of Energy, Weekly Petroleum Status Report

The Role of Imports in Domestic Demand

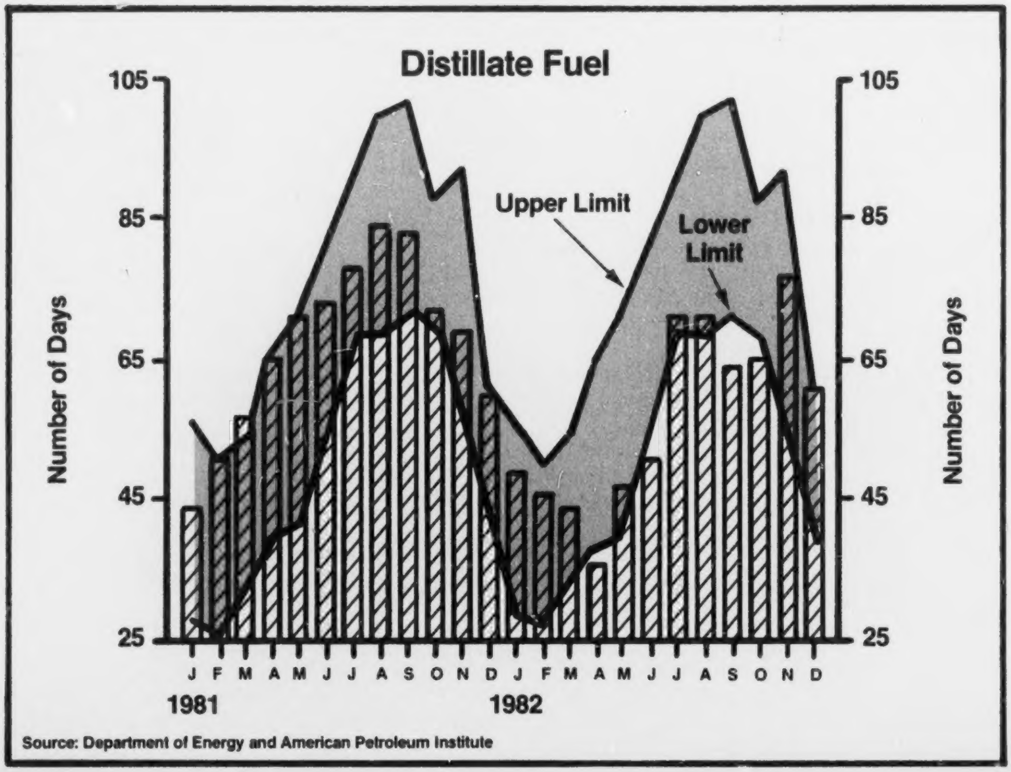
Year	U.S. Imports Total (a) (Add 000)	b/d Avg.	% Change	Domestic Demand for Refined Products Total (Add 000)	b/d Avg.	% Change	Imports as % of U.S. Demand
1982(b)	1,780,105	4,877	-15.0%	5,567,345	15,253	-5.0%	32.0%
1981	2,095,122	5,740	-16.4	5,861,058	16,058	-5.9	35.7
1980	2,512,636	6,865	-18.2	6,242,445	17,056	-7.9	40.3
1979	3,062,053	8,389	+2.3	6,757,077	18,513	-1.8	45.3
1978	2,993,847	8,202	-6.7	6,879,017	18,847	+2.3	43.5
1977	3,207,106	8,787	+20.2	6,727,468	18,431	+5.6	47.7
1976	2,676,411	7,313	+20.8	6,390,750	17,461	+7.2	41.9
1975	2,210,335	6,056	-0.9	5,957,515	16,322	-2.0	37.1
1974	2,230,947	6,112	-2.3	6,078,239	16,653	-3.8	36.7
1973	2,283,493	6,256	+32.0	6,317,303	17,308	+5.7	36.1
1972	1,735,314	4,741	+20.8	5,990,316	16,367	+7.6	29.0
1971	1,432,880	3,926	+14.8	5,552,560	15,212	+3.5	25.8
1970	1,248,062	3,419	+8.0	5,364,473	14,697	+4.0	23.3
1965	900,772	2,468	+9.3	4,202,039	11,512	+4.4	21.4
1960	664,111	1,815	+2.0	3,585,820	9,797	+2.8	18.5
1955	455,564	1,248	+18.6	3,089,348	8,464	+9.0	14.7
1950	310,261	850	+31.8	2,392,974	6,556	+13.0	13.0

(a) Crude oil and products but not crude for Strategic Petroleum Reserve; (b) Preliminary.
Source: American Petroleum Institute, Basic Petroleum Data Book, Department of Energy.



Source: Department of Energy and American Petroleum Institute

Days' Supply of Gasoline and Fuel Oil in Inventory—1982



Source: Department of Energy and American Petroleum Institute

Petroleum Production and New Reserves Found

All Time to Dec. 31, 1980

	Total Liquid Petroleum (Mil. Bbl.)			Natural Gas (Bil. Cu. Ft.)		
	Found	Produced	Proved Reserves Dec. 31, 1980	Found	Produced	Proved Reserves Dec. 31, 1980
PAD District 1						
Florida	662	501	161	479	357	122
Maryland	0	0	0	†	†	†
New York	†	†	†	794	586	208
Pennsylvania	1,349	1,314	35	10,339	9,388	951
Virginia	†	†	†	†	†	†
West Virginia	892	765	127	17,896	15,337	2,559
Total	**2,903**	**2,580**	**323**	**29,508**	**25,668**	**3,840**
PAD District 2						
Illinois	3,369	3,256	113	†	†	†
Indiana	1,277	1,254	23	†	†	†
Kansas	6,289	5,590	699	36,552	26,487	10,065
Kentucky	823	763	60	4,019	3,483	536
Michigan	1,212	895	317	1,862	311	1,551
Missouri	†	†	†	†	†	†
Nebraska	442	396	46	†	†	†
North Dakota	929	654	275	1,498	904	594
Ohio	988	872	116	7,439	5,740	1,699
Oklahoma	15,888	14,354	1,534	66,312	52,404	13,908
South Dakota	†	†	†	†	†	†
Tennessee	†	†	†	†	†	†
Total	**31,217**	**28,034**	**3,183**	**117,682**	**89,329**	**28,353**
PAD District 3						
Alabama	559	279	280	995	313	682
Arkansas	1,669	1,576	123	5,407	3,611	1,796
Louisiana	26,646	22,549	4,097	207,120	158,735	48,385
Mississippi	2,247	2,025	222	7,398	5,622	1,776
New Mexico	6,876	5,788	1,088	46,274	32,318	13,956
Texas	65,941	55,283	10,658	284,024	230,854	53,170
Total	**103,968**	**87,500**	**16,468**	**551,218**	**431,453**	**119,765**
PAD District 4						
Colorado	1,786	1,409	377	6,682	3,512	3,170
Montana	1,266	1,071	195	3,114	1,806	1,308
Utah	1,083	758	325	2,722	1,438	1,284
Wyoming	6,209	4,940	1,269	18,525	9,112	9,413
Total	**10,344**	**8,178**	**2,166**	**31,043**	**15,868**	**15,175**
PAD District 5						
Alaska	11,236	2,474	8,762	35,526	2,131	33,395
Arizona	†	†	†	†	†	†
California	25,525	19,935	5,590	34,394	28,843	5,551
Nevada	†	†	†	†	†	†
Oregon	0	0	0	†	†	†
Total	**36,761**	**22,409**	**14,352**	**69,920**	**30,974**	**38,946**
All Other States	301	260	41	2,332	2,152	180
Total U.S.	**186,494**	**148,961**	**36,533**	**801,703**	**595,444**	**206,259**

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†Included in All Other States.

Source: Independent Petroleum Assn. of America, "Oil Industry in Your State, 1982."

United States Crude Oil Production—1972-1981

(Thousands of Barrels Daily)

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
PAD District 1										
Florida	46.2	89.6	99.6	114.7	121.5	127.8	130.2	129.2	117.2	95.3
New York	2.8	2.6	2.5	2.4	2.3	2.3	2.3	2.3	2.3	2.3
Pennsylvania	9.4	9.0	9.5	9.0	8.3	7.4	7.9	7.9	7.2	10.2
Virginia	**	**	**	**	**	**	**	**	**	.04
West Virginia	7.3	6.5	7.3	6.8	6.9	6.9	6.5	6.6	6.4	9.5
Total	**65.7**	**107.7**	**118.9**	**132.9**	**139.0**	**144.4**	**146.9**	**146.0**	**133.1**	**117.3**
PAD District 2										
Illinois	95.3	84.0	75.5	71.4	71.8	70.2	64.0	59.7	62.0	70.4
Indiana	16.7	14.6	13.5	12.7	12.7	14.6	12.8	12.9	13.6	12.9
Kansas	201.5	181.5	169.0	161.9	160.4	157.5	155.0	156.2	164.3	180.3
Kentucky	26.5	23.8	21.5	20.7	20.4	18.0	15.7	15.1	16.2	17.9
Michigan	35.5	40.0	49.4	66.9	83.1	90.3	95.0	95.5	97.8	89.5
Nebraska	23.8	19.8	18.1	16.8	16.9	16.4	16.1	16.6	17.0	18.3
North Dakota	56.3	55.4	54.0	56.0	59.4	63.8	68.0	84.7	110.2	125.2
Ohio	25.6	24.1	24.9	26.2	27.3	28.4	30.6	32.8	35.3	37.1
Oklahoma	567.3	523.8	487.1	446.9	441.0	428.4	412.2	393.6	410.2	422.1
South Dakota	0.6	0.8	1.3	1.3	1.2	1.7	2.4	2.3	2.1	2.7
Other (a)	0.7	0.8	2.2	2.0	1.8	2.2	1.8	1.9	2.4	3.1
Total	**1,049.8**	**968.6**	**916.5**	**882.8**	**896.0**	**891.7**	**873.6**	**871.3**	**931.1**	**979.6**
PAD District 3										
Alabama	27.2	32.0	36.5	36.9	40.2	50.0	54.3	52.5	60.5	56.7
Arkansas	50.6	49.4	45.3	44.2	49.4	55.3	55.7	51.7	49.8	51.6
Louisiana	2,436.7	2,278.1	2,020.0	1,783.1	1,657.1	1,542.2	1,459.6	1,341.6	1,281.8	1,236.2
Gulf	2,315.7	2,169.2	1,913.7	1,680.8	1,552.7	1,441.1	1,363.1	1,254.1	1,193.2	1,140.0
Other	121.0	108.9	106.3	102.3	104.4	101.1	96.5	87.5	88.6	95.8
Mississippi	166.9	153.7	139.1	127.7	125.9	117.9	115.1	102.3	98.2	94.2
New Mexico	302.0	276.7	270.4	260.5	251.7	239.0	228.4	218.2	205.1	197.7
Texas	3,556.5	3,547.0	3,457.9	3,347.8	3,250.0	3,117.5	2,942.6	2,789.3	2,670.6	2,607.3
Total	**6,539.9**	**6,336.9**	**5,969.2**	**5,600.2**	**5,374.4**	**5,121.9**	**4,855.7**	**4,555.6**	**4,366.0**	**4,243.7**
PAD District 4										
Colorado	87.5	100.2	102.8	104.4	106.5	108.1	100.8	88.5	81.4	83.0
Montana	92.6	94.8	94.7	90.0	89.7	89.5	83.5	82.1	80.0	84.4
Utah	72.6	89.5	107.8	115.9	93.7	90.7	85.9	76.0	68.2	65.0
Wyoming	382.5	388.8	383.5	372.5	366.5	373.9	376.4	361.3	345.2	334.7
Total	**635.2**	**673.3**	**688.8**	**682.8**	**656.4**	**662.2**	**646.6**	**607.9**	**574.8**	**567.1**
PAD District 5										
Alaska	199.2	198.1	193.4	191.3	173.2	463.6	1,229.1	1,400.9	1,616.6	1,609.1
Arizona	2.7	2.2	2.0	1.7	1.4	1.2	1.1	1.3	1.1	.98
California	948.2	920.8	885.0	882.7	890.8	957.8	951.2	965.1	975.2	1,054.7
Nevada	0.2	0.3	0.4	0.3	0.4	1.8	3.2	3.4	2.4	1.92
Total	**1,150.3**	**1,121.4**	**1,080.8**	**1,076.0**	**1,065.8**	**1,424.4**	**2,184.6**	**2,370.7**	**2,595.3**	**2,666.7**
Total U.S.	**9,440.9**	**9,207.9**	**8,774.2**	**8,374.7**	**8,131.6**	**8,244.6**	**8,707.4**	**8,551.5**	**8,600.3**	**8,574.4**

**Less than 100 barrels daily; (a) Missouri and Tennessee.

Source: Independent Petroleum Assn. of America, "The Oil Industry in Your State, 1982."

Stocks of Motor Gasoline by PAD Regions

(Add 000,000 bbl.)

1982	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Fin. Gasoline	214.1	213.3	198.8	179.1	173.7	177.8	182.9	184.8	191.3	192.1	189.3	194.4
Blend Comp.	47.9	48.8	49.1	43.3	41.2	41.9	43.1	41.1	42.5	42.3	40.7	40.9
Total Gasoline	262.1	262.1	247.9	222.8	214.9	219.7	226.8	226.0	233.8	234.3	230.0	235.3
East Coast	71.7	69.6	67.1	61.7	63.6	66.0	63.1	62.4	63.5	63.5	66.1	67.5
Midwest	78.6	79.1	74.8	63.2	56.8	56.6	62.6	65.8	69.5	67.0	64.0	65.2
Gulf Coast	70.2	69.2	68.0	63.4	63.6	65.0	66.1	64.4	67.4	69.8	65.5	66.2
Rocky Mountain	9.6	9.9	10.1	8.9	7.7	6.5	5.8	5.5	5.7	6.4	7.1	8.5
West Coast	32.0	34.3	27.8	25.5	23.3	25.7	28.4	27.7	27.7	27.6	27.2	27.9

Stocks of Distillate Fuel Oil by PAD Regions

(Add 000,000 bbl.)

1982	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Total U.S.	166.0	146.7	127.7	108.8	114.5	124.5	148.1	158.9	161.2	170.2	185.6	178.6
East Coast	69.2	58.4	44.9	35.1	39.2	44.2	57.4	63.9	68.0	75.7	88.7	80.6
Midwest	47.4	43.8	40.2	31.2	31.2	34.1	42.6	45.5	45.5	44.3	45.3	47.0
Gulf Coast	30.8	26.7	27.5	28.2	31.0	32.5	34.2	35.8	34.1	37.0	36.9	34.2
Rocky Mountain	4.1	3.9	3.7	3.1	2.8	3.0	3.4	3.8	3.5	3.5	3.5	4.0
West Coast	14.5	13.9	11.4	11.1	10.3	10.7	10.6	10.2	10.1	9.6	11.3	12.7

Stocks of Residual Fuel Oil by PAD Regions

(Add 000,000 bbl.)

1982	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Total U.S.	68.2	58.1	57.3	53.6	59.1	60.5	59.0	52.8	61.8	63.6	66.4	66.2
East Coast	32.2	24.9	24.8	23.5	28.3	28.2	27.1	23.1	29.0	32.8	36.4	34.7
Midwest	7.7	7.3	7.0	6.2	6.0	5.7	5.7	5.3	5.8	5.1	5.0	5.2
Gulf Coast	17.4	14.4	14.7	13.5	14.9	17.1	16.4	15.6	16.2	15.6	16.1	16.3
Rocky Mountain	0.6	0.7	0.6	0.5	0.5	0.5	0.5	0.4	0.5	0.5	0.5	0.6
West Coast	10.2	11.0	10.3	9.9	9.4	9.2	9.3	8.4	10.4	9.6	8.4	9.3

Petroleum Products Supplied

(Add 000,000 b/d)

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1981												
Motor Gasoline	6.4	6.3	6.3	6.6	6.6	7.0	6.8	6.6	6.7	6.6	6.4	6.7
Jet Fuel	1.1	1.0	1.1	1.0	0.9	1.0	1.1	1.0	1.0	0.9	1.0	1.0
Distillate Fuel Oil	4.1	3.4	2.9	2.5	2.4	2.4	2.4	2.4	2.5	2.8	2.9	3.2
Residual Fuel Oil	2.9	2.5	2.1	1.9	1.8	2.0	2.0	1.8	1.9	1.9	1.9	2.3
Other	3.9	3.8	3.5	3.4	3.7	3.7	3.4	3.5	3.8	3.6	3.4	3.4
Total	18.4	17.0	15.9	15.4	15.4	16.1	15.7	15.3	15.9	15.8	15.6	16.6
1982												
Motor Gasoline	5.9	6.1	6.6	6.9	6.7	6.8	6.8	6.7	6.5	6.4	6.6	6.5
Jet Fuel	1.0	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.1
Distillate Fuel Oil	3.4	3.2	2.9	3.0	2.4	2.5	2.1	2.2	2.5	2.6	2.5	2.9
Residual Fuel Oil	2.2	2.3	1.9	1.9	1.6	1.5	1.5	1.5	1.5	1.5	1.6	1.6
Other	3.4	3.2	3.2	3.2	3.1	3.1	3.4	3.4	3.4	3.4	3.4	3.5
Total	15.9	15.9	15.6	16.0	14.8	14.9	14.8	14.8	14.9	14.8	15.0	15.5

Source: Department of Energy, Weekly Petroleum Status Report.

U.S. Estimated Petroleum Balance—1982

(Add 000 b/d)

Supply/Products Supplied From Primary Storage (a)	Full Year			4th Quarter			3rd Quarter			2nd Quarter		
	1982	1981	% Chng.	1982	1981	% Chng.	1982	1981	% Chng.	1982	1981	% Chng.
Products Supplied:												
Motor gasoline	6,505	6,588	(1.3)	6,369	6,546	(2.7)	6,643	6,708	(1.0)	6,851	6,730	1.8
Unleaded motor gasoline (b)	3,515	3,403	3.3	3,508	3,428	2.3	3,609	3,505	3.0	3,550	3,422	3.7
Naphtha-jet	204	198	3.0	189	181	4.4	217	217	—	203	201	1.0
Kerosine-jet	800	809	(1.1)	810	782	3.6	805	826	(2.5)	773	773	—
Kerosine	124	127	(2.4)	138	161	(14.3)	100	93	7.5	93	88	5.7
Distillate fuel oil	2,679	2,829	(5.3)	2,651	2,966	(10.6)	2,273	2,425	(6.3)	2,641	2,457	7.5
Residual fuel oil	1,661	2,088	(20.5)	1,424	2,015	(29.3)	1,529	1,902	(19.6)	1,622	1,863	(12.9)
All other oils	3,525	3,693	(4.5)	3,506	3,646	(3.8)	3,555	3,611	(1.6)	3,422	3,631	(5.8)
Reclassified (c)	-323	-269	20.1	-289	-285	1.4	-323	-245	31.8	-289	-251	15.1
Total domestic products supplied	15,175	16,063	(5.5)	14,798	16,012	(7.6)	14,799	15,537	(4.8)	15,316	15,492	(1.1)
Exports	812	595	36.5	848	698	21.5	774	579	33.7	815	529	54.1
Total products supplied	**15,987**	**16,658**	**(4.0)**	**15,646**	**16,710**	**(6.4)**	**15,573**	**16,116**	**(3.4)**	**16,131**	**16,021**	**0.7**
Supply:												
Domestic production:												
Crude oil (d)	8,654	8,572	1.0	8,645	8,577	0.8	8,667	8,562	1.2	8,655	8,551	1.2
Natural gas liquids	1,543	1,609	(4.1)	1,560	1,606	(2.9)	1,525	1,591	(4.1)	1,565	1,561	0.3
Other supply[7]	640	580	14.3	632	720	(12.2)	723	321	125.2	586	500	17.2
Total domestic supply	10,837	10,741	0.9	10,837	10,903	(0.6)	10,915	10,474	4.2	10,806	10,612	1.8
Imports:												
Crude oil, total (e)	3,308	4,141	(20.1)	3,356	3,892	(13.8)	3,685	4,169	(11.6)	3,141	3,934	(20.2)
Canadian	202	164	23.2	192	185	3.8	215	150	43.3	184	131	40.5
Other	3,106	3,977	(21.9)	3,164	3,707	(14.6)	3,470	4,019	(13.7)	2,957	3,803	(22.2)
Products, total	1,537	1,599	(3.9)	1,513	1,660	(8.9)	1,403	1,577	(11.0)	1,373	1,362	0.8
Residual fuel oil	737	800	(7.9)	699	860	(18.7)	660	830	(20.5)	680	621	9.5
Other	800	799	0.1	814	800	1.8	743	747	(0.5)	693	741	(6.5)
Total imports	4,845	5,740	(15.6)	4,869	5,552	(12.3)	5,088	5,746	(11.5)	4,514	5,296	(14.8)
Total supply	**15,682**	**16,481**	**(4.8)**	**15,706**	**16,455**	**(4.6)**	**16,003**	**16,220**	**(1.3)**	**15,320**	**15,908**	**(3.7)**

(a) Preliminary; (b) Included in motor gasoline total; (c) In 1981, Department of Energy began using a new data collection system dealing with reclassified products. These are deducted from domestic supplies to eliminate double counting; (d) Includes lease condensate; (e) Does not include oil imported from Strategic Petroleum Reserve nor crude stocks held in SPR.

Source: American Petroleum Institute, Monthly Statistical Reports.

U.S. Refinery Operations

(Add 000 b/d)

Refinery Operations (a)	Full Year			4th Quarter			3rd Quarter			2nd Quarter		
	1982	1981	%Chng.	1982	1981	%Chng.	1982	1981	%Chng.	1982	1981	%Chng.
Input to crude oil distillation units	12,176	12,751	(4.5)	12,038	12,546	(4.0)	12,575	12,837	(2.0)	12,236	12,523	(2.3)
Operable capacity	17,445	18,603	(6.2)	16,835	18,418	(8.6)	17,302	18,659	(7.3)	18,210	18,699	(2.6)
Refinery utilization (%)	69.8%	68.5%	1.9	71.5%	68.1%	5.0	72.7%	68.8%	5.7	67.2%	67.0%	0.3
Crude oil runs	11,766	12,471	(5.7)	11,627	12,215	(4.8)	12,168	12,559	(3.1)	11,868	12,272	(3.3)

(a) Preliminary.

Source: American Petroleum Institute, Monthly Statistical Reports.

Crude and Product Inventories

(Add 000,000 bbl.)

Stocks (a)	Full Year			4th Quarter			3rd Quarter			2nd Quarter		
	1982	1981	% Chng.	1982	1981	% Chng.	1982	1981	% Chng.	1982	1981	% Chng.
Crude oil (b)	348.1	363.5	(4.2)	348.1	363.5	(4.2)	350.3	356.0	(1.6)	352.3	392.2	(10.2)
Unfinished oils	102.8	111.3	(7.6)	102.8	111.3	(7.6)	116.8	118.4	(1.4)	116.6	126.1	(7.5)
Motor gasoline	241.4	253.0	(4.6)	241.4	253.0	(4.6)	237.0	237.1	—	218.6	241.7	(9.6)
Naphtha-jet	6.0	7.1	(15.5)	6.0	7.1	(15.5)	6.2	6.1	1.6	5.7	6.0	(5.0)
Kerosine-jet	32.2	34.0	(5.3)	32.2	34.0	(5.3)	33.4	37.0	(9.7)	34.3	39.3	(12.7)
Kerosine	10.7	11.0	(2.7)	10.7	11.0	(2.7)	10.9	13.9	(21.6)	10.8	13.2	(18.2)
Distillate fuel oil	179.6	191.5	(6.2)	179.6	191.5	(6.2)	163.2	207.3	(21.3)	126.4	180.2	(29.9)
Residual fuel oil	67.3	78.0	(13.7)	67.3	78.0	(13.7)	59.0	80.2	(26.4)	58.3	70.1	(16.8)
All other oils	154.1	203.9	(24.4)	154.1	203.9	(24.4)	156.0	220.8	(29.3)	155.0	205.6	(24.6)
Total all oils	**1,142.2**	**1,253.3**	**(8.9)**	**1,142.2**	**1,253.3**	**(8.9)**	**1,132.8**	**1,276.8**	**(11.3)**	**1,078.0**	**1,274.4**	**(15.4)**

(a) Preliminary; (b) Does not include oil imported for Strategic Petroleum Reserve, nor crude oil stocks held in SPR.

Source: American Petroleum Institute Monthly Statistical Reports.

Domestic Supply Trend

(add 000,000 bbl.)

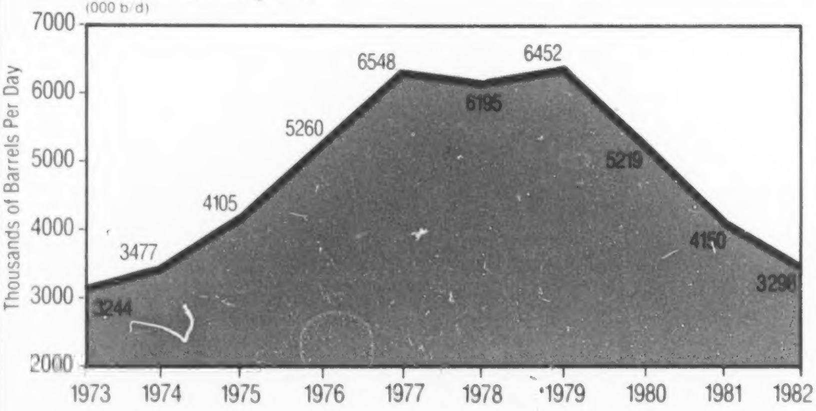
Year	All products	Gasoline	Kerosine (a)	Distillate	Residual	LPG	Lubes	Other
1982 (b)	5,568	2,386	339	977	618	443	51	754
1981	5,861	2,404	342	1,032	762	407	56	858
1980	6,932	2,536	397	1,389	1,033	414	58	1,105
1979	6,758	2,568	388	1,210	1,032	456	66	1,038
1978	6,879	2,705	377	1,253	1,103	358	63	1,020
1977	6,710	2,633	350	1,223	1,121	369	58	956
1976	6,391	2,567	351	1,147	1,025	381	56	864
1975	5,958	2,436	347	1,041	899	362	50	823
1973	6,317	2,453	386	1,124	1,030	404	59	851
1971	5,552	2,213	385	971	838	369	49	727
1970	5,364	2,131	358	927	804	363	50	731
1965	4,202	1,720	220	776	587	307	47	545
1960	3,610	1,512	132	685	559	227	43	427

(a) Kerosine includes jet fuel; (b) Preliminary.

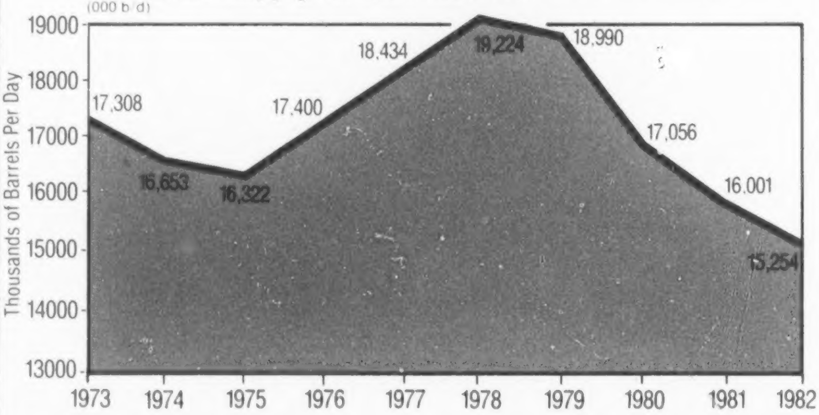
Source: Department of Energy, Petroleum Supply Monthly.

Figures for 1963 and thereafter are not strictly comparable to earlier years because of product reclassification resulting from separately reporting data for petrochemical feedstocks.

Crude Oil Imports



Domestic Supply Of Oil Products



Source: Department of Energy

Prices sagged and consumption of oil's two prime products—gasoline and fuel oil—declined further in 1982. It was the 1981 story all over again—much too much crude oil everywhere, and an abundance of products that not only sated but overwhelmed the marketplace.

Price competition for gasoline was fierce, with the retail average for all grades at 124.4¢ on Dec. 31—10¢ less than it was at the same time the year before. Regular grade gasoline dipped below the $1 gal. mark in scattered places, and in the spring of 1983 such prices were common. Some marketers were moving unleaded regular at 99.9¢ too.

The soft markets and bitter street fighting, as evidenced by the credit card war and cash discounts, left no doubt that 1983 would see little or no improvement in the gasoline prices.

No. 2 heating oil eroded during the last quarter of 1982 mostly because warmer weather softened demand. The same held true in the first quarter of 1983, with the heating season still substantially off. Prices firmed a little, but not much.

The OPEC nations set new bench marks for crude oil in the first quarter of 1983, but there were serious reservations whether they would hold—that once again, it was a case of too little too late. If the bottom falls out of the international markets again, the downward pressure on the gasoline and fuel oil markets throughout 1983 cannot help but be the worst yet.

Supply and Production, Principal Products

(Add 000 bbl.)

	Motor Gasoline	Aviation Gasoline	Distillate Fuel Oil	Residual Fuel Oil	Jet Fuel (a)	Lubricants	Asphalt
Domestic Supply							
1982 (b)	2,386,286	9,322	976,822	618,351	369,283	50,882	124,545
1981	2,404,447	11,147	1,032,476	762,030	367,717	55,958	123,982
Production							
1982 (b)	2,315,626	8,176	953,420	388,614	356,513	51,563	121,556
1981	2,336,182	10,902	953,732	482,088	353,215	60,561	123,452
Imports							
1982 (b)	67,604	0	33,821	28,681	9,629	3,557	1,678
1981	57,182	0	63,071	292,070	13,859	3,069	1,427

(a) Includes naphtha and kerosine-based jet fuel. (b) Preliminary Source: Department of Energy, Petroleum Supply Monthly

U.S. Oil Imports (a)

(Add 000 b/d)

Year	Crude Oil	Other Products	Residual Fuel Oil	Total Imports	% of Total U.S. Supply
1982 (b)	3,320	810	745	4,875	32.3%
1981	4,141	779	800	5,720	33.9
1980	5,219	690	920	6,829	40.1

(a) Does not include Strategic Petroleum Reserve; (b) Preliminary
Source: Department of Energy, Monthly Energy Review and IPAA.

Origins of U.S. Oil Imports

(Add 000 b/d)

	Western Hemisphere			Eastern Hemisphere		
Year	Canada	Venezuela	Other	Mid-East	Africa	Other
1982	465	385	1,925	790	705	605
1981	410	375	1,375	1,120	1,425	1,020
1980	435	460	1,631	1,565	2,915	781

Source: Independent Petroleum Assn. of America.

	Total Well Completions			Proved Reserves			Supply (Add 000 b/d)		
Year	Total (a)	Dry	% Dry	Crude Oil (b)	Crude Production/ Reserve Ratio	Natural Gas (c)	Natural Gas Production/ Reserve Ratio	Domestic Crude & Natl. Gas Lqds.	Crude & Product Imports
1982 (d)	88,258	26,595	30.1%	NA	NA	NA	NA	10,200	4,875
1981	80,537	22,973	28.5	29,426	10.0	201.7	10.4	10,180	5,720
1980	62,462	18,089	28.9	29,805	10.0	199.0	10.6	10,161	6,787

(a) Includes oil, gas, service and dry completions; (b) Millions of bbl.; (c) Trillions of cubic feet; (d) Preliminary Source: Independent Petroleum Assn. of America and Department of Energy

Supply/Demand Forecast for 1983

Last fall, the Independent Petroleum Assn. of America, whose semi-annual forecasts are usually well on target, predicted that things in 1983 wouldn't be much different than they were in 1982.

This is the way IPAA foresaw things:

Total demand, including exports, will be off slightly. Domestic demand will be up a miniscule 0.5%—roughly 77,000 b/d. Industrial fuel and diesel fuel will account for most of that. Gasoline will be down again—for the fourth consecutive year—by 51,000 b/d, or 0.8%.

Supply in 1983 will be up slightly, about 2.1% or 331,000 b/d. Imports will account for most of the increase because domestic production of crude oil and natural gas liquids will be fairly well balanced with less than a 1% change.

Inventories at the end of 1983 are expected to be about the same as they were at the end of 1982.

Crude runs will be about 250,000 b/d in 1983, but with fewer refineries doing the processing the utilization rate may improve somewhat. Crude runs are expected to average 12,247,000 b/d next year.

The IPAA forecast also said:

"Domestic demand is expected to reverse its downward trend of the past four years and average 15.5-million b/d in 1983, a modest increase of approximately 77,000 b/d from an estimated 15.4-million b/d in 1982. Renewed growth in industrial demand for oil products as the economy improves, coupled with gains in oil demand in the transportation sector, are expected to account for most of the forecast growth.

"Motor gasoline consumption is forecast to decline 51,000 b/d in 1983 to average 6.5-million b/d, following a drop of about 30,000 b/d in 1982. Continued growth in miles driven and in the vehicle population is expected to be slightly offset by improvements in fuel efficiency.

"Aviation fuel consumption is projected to increase approximately 1% to average 1.04-million b/d in 1983 following an estimated decline of 0.7% this year. Improvement in the economic climate will lead to increased passenger miles flown, with potential increases being partially mitigated by improved fuel efficiency.

"Middle distillates are expected to show a 2.0% growth to average 2.93-million b/d in 1983, up 56,000 b/d following an estimated 87,000 b/d decline in 1982. This will reverse the drop of nearly 600,000 b/d from the 1978 level of 3.44-million b/d, due to natural gas substitution, conservation, and the recessionary trend of the last two years. Growth in the demand of distillate for transportation and industrial fuel use will offset a slight decline in residential heating oil consumption.

"Residual fuel oil consumption is projected to decline 42,000 b/d to average 1.78-million b/d in 1983. This moderate decline follows a drop of over 265,000 b/d in 1982. Most of this decline will be the result of increased penetration of coal, nuclear and hydroelectric power in the electric utility sector.

"Demand for liquefied petroleum gases is expected to show an increase of 0.7% in 1983, following a 1.3% increase in 1982. Other products are expected to increase 4.1% in 1983 following a 13.4% decline in 1982."

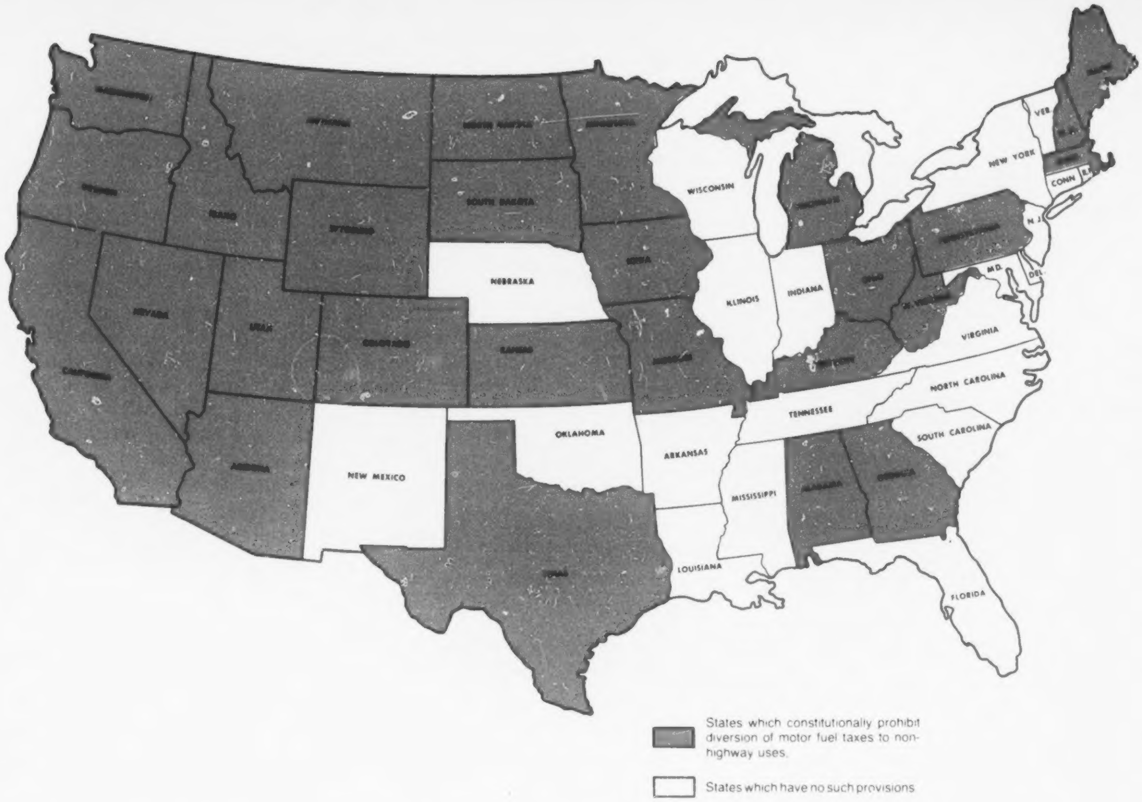
The Outlook: Not Good But Not Bad

(Add 000 b/d except stocks which are millions of bbl.)

	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	Full Year
Domestic Product Demand:					
Motor Gasoline	6,165	6,660	6,681	6,491	6,500
Aviation Fuels	1,045	1,030	1,063	1,029	1,042
Middle Distillates	3,409	2,708	2,435	3,154	2,925
Residual Fuel Oil	2,027	1,618	1,650	1,826	1,760
Liquified Gases	1,691	1,381	1,305	1,605	1,495
Other Products	1,533	1,784	1,908	1,734	1,740
Total	**15,870**	**15,181**	**15,042**	**15,839**	**15,482**
Exports:	685	665	635	640	656
Total Demand:	**16,555**	**15,846**	**15,677**	**16,479**	**16,138**
Stock Change All Oils:	**−407**	**+19**	**+575**	**−107**	**+23**
Total Supply					
Domestic Production:					
Crude Oil	8,550	8,550	8,550	8,550	8,550
Natural Gas Liquids	1,542	1,523	1,524	1,541	1,532
Total	**10,092**	**10,073**	**10,074**	**10,091**	**10,082**
Required Imports:					
Crude Oil (a)	3,686	3,659	4,016	3,962	3,832
Motor Gasoline	168	186	192	174	180
Aviation Fuels	36	31	36	37	35
Middle Distillates	152	115	129	156	138
Residual Fuel Oil	860	685	739	814	774
Liquified Gases	289	227	219	268	251
Other Products	168	211	199	190	192
Total	**5,359**	**5,114**	**5,530**	**5,601**	**5,402**
Other Supply	697	678	648	680	677
Total Supply:	**16,148**	**15,865**	**16,252**	**16,372**	**16,161**
Closing Stocks:					
Motor Gasoline	239.4	223.7	222.5	231.0	231.0
Aviation Fuels	40.8	41.2	40.2	40.7	40.7
Middle Distillates	127.1	135.4	176.0	163.8	163.8
Residual Fuel Oil	52.7	57.1	64.0	65.5	65.5
Liquified Gases	100.8	110.5	129.3	120.7	120.7
Other Products	59.2	59.3	53.6	55.5	55.5
Total Products	**620.0**	**627.2**	**685.6**	**677.2**	**677.2**
Unfinished Oils	118.6	120.2	119.6	118.4	118.4
Natural Gas Liquids	14.6	13.5	13.8	13.7	13.7
Crude Oil (a)	346.5	340.6	335.5	335.4	335.4
Total All Oils:	**1,099.7**	**1,101.5**	**1,154.5**	**1,144.7**	**1,144.7**
Crude Runs to Stills:	**12,023**	**12,136**	**12,442**	**12,373**	**12,247**

(a) Excludes imports for and stocks in U.S. Strategic Storage.

Source: Independent Petroleum Assn. of America, Supply & Demand Committee, October, 1982.



State Tax Collections — 1982

State	Gasoline tax rates per gal. (a) 12/31/82	Total state motor fuel tax revenues (Add 000) 1982(b)	1981	% Change
Alabama	11.0¢	$244,003	$247,127	-1.3%
Alaska	8.0	16,258	15,019	8.2
Arizona	8.0	139,035	127,339	9.2
Arkansas	9.5	129,770	131,001	-0.9
California	7.0	816,212	812,071	0.5
Colorado	9.0	139,914	123,618	13.2
Connecticut	11.0	148,161	159,221	-7.0
Delaware	11.0	36,110	30,767	17.4
Dist. of Columbia	13.0	24,933	20,294	22.9
Florida	8.0	445,607	419,750	6.2
Georgia	7.5	247,904	248,501	-0.4
Hawaii	8.5	25,513	27,085	-5.8
Idaho	11.5	56,879	54,764	3.9
Illinois	7.5	365,846	367,484	-0.4
Indiana	10.5	354,470	292,590	21.1
Iowa	13.0	210,254	157,818	33.2
Kansas	8.0	149,890	115,286	30.0
Kentucky	10.1	193,029	194,026	-0.5
Louisiana	8.0	197,899	191,665	3.3
Maine	9.0	49,544	48,131	2.9
Maryland	9.0	191,858	187,574	2.3
Massachusetts	11.2	258,071	266,097	-3.0
Michigan	11.0	448,091	444,483	0.9
Minnesota	13.0	286,066	248,791	15.0
Mississippi	9.0	135,150	118,397	14.1
Missouri	7.0	194,375	194,218	0.1
Montana	9.0	51,973	48,175	7.9
Nebraska	13.9	123,320	125,531	-1.8
Nevada	10.5	64,429	44,890	43.5
New Hampshire	14.0	55,838	52,698	6.0
New Jersey	8.0	279,659	279,621	0.0
New Mexico	9.0	83,886	76,581	9.5
New York	8.0	464,004	466,425	-5.2
North Carolina	12.0	386,912	329,343	17.5
North Dakota	8.0	34,074	34,490	-1.2
Ohio	12.3	587,873	435,660	34.9
Oklahoma	6.5	140,131	132,256	6.0
Oregon	8.0	120,656	87,973	37.2
Pennsylvania	11.0	562,435	638,889	-12.0
Rhode Island	12.0	44,000	43,194	1.9
South Carolina	13.0	227,086	205,245	10.6
South Dakota	13.0	55,571	53,606	3.7
Tennessee	9.0	288,751	249,200	14.7
Texas	5.0¢	489,313	487,022	4.7%
Utah	11.0	92,135	75,959	21.3
Vermont	11.0	27,280	22,662	20.4
Virginia	11.0	321,734	319,206	0.8
Washington	13.5	255,295	256,822	-0.6
West Virginia	10.5	97,440	96,456	1.0
Wisconsin	13.0	333,242	240,743	38.4
Wyoming	8.0	36,901	38,039	-3.0
Total	**9.5¢**	**$10,725,729**	**$10,083,810**	**6.4%**

(a) Tax rate for highway use: does not include federal or local taxes. (b) Preliminary

Source: Federal Highway Administration.

Federal Collections (Add 000)

Year	Gasoline(a)	Diesel and special fuels(a)	Lube oil(b)	Total
1982 (c)	$3,854,363	$589,933	$77,822	$3,854,363
1981	3,801,795	570,477	74,695	4,446,967
1980	4,019,481	518,352	78,835	4,616,668
1979	4,282,919	508,595	82,335	4,873,849
1978	4,381,950	488,064	79,047	4,949,061
1977	4,229,721	452,631	78,830	4,761,182
1976	4,140,924	408,560	70,135	4,619,619
1975	3,884,483	362,675	66,124	4,313,282
1974	3,854,505	373,302	78,155	4,305,962
1973	3,958,682	358,120	86,266	4,403,068
1972	3,736,545	321,551	85,841	4,143,937
1971	3,513,927	275,159	67,130	3,856,216
1970	3,408,505	264,815	65,862	3,739,182
1969	3,172,243	240,650	86,338	3,499,231

(a) 4¢ gal.; (b) 6¢ gal.; (c) Figures for 1982 are fiscal year gross collections that went to the Highway Trust Fund, since net IRS calendar year information was not available. All other figures represent calendar year net collections after refunds and include the taxes the federal government pays on its own purchases.

Source: U.S. Department of Transportation, Federal Highway Administration.

Outlook Bright for Auto Parts and Services

The economic slowdown didn't seem to hamstring the automotive products and services business in 1982. The most recent report from the Bureau of Industrial Economics of the U.S. Department of Commerce says total sales jumped 5.6% between 1981 and 1982, and another 9.2% jump is forecast for between 1982 and 1983. The Commerce Department now anticipates that 1983 will be a $9-billion-plus year for automotive products and services sales.

Average sales per establishment are still growing too, the government bureau says. They rose 5.4% between 1981 and 1982 and are expected to go up another 4.2% this year. The number of establishments, while increasing slowly, isn't making the headway that had been projected in January of 1982. At that time, it was believed the population would be close to 41,000 by the end of 1982 and would top 43,000 in 1983. The new forecast now credits 1982 with only 39,721 establishments and predicts that the 1983 population will be close to 41,500 by next December.

Automotive Products and Services (a)

	1983(b)	1982(b)	1981(b)
Total number of establishments:	41,496	39,721	39,616
Company-owned	4,178	4,106	4,126
Franchisee-owned	37,318	35,615	35,490
Total Sales of products and services: (Add $000) (c)	9,269,724	8,491,612	8,039,069
Company-owned (c)	2,779,796	2,601,690	2,436,912
Franchisee-owned (c)	6,489,928	5,889,922	5,602,157
Average sales per establishment (c)	$223,000	$214,000	$203,000
Company-owned	665,000	634,000	590,000
Franchisee-owned	174,000	165,000	158,000
Employment	NA	NA	170,260
Company-owned	NA	NA	33,900
Franchisee-owned	NA	NA	136,360

(a) Includes tire, battery and accessory stores; auto and truck wash services; and brake and muffler repair and service; (b) Data estimated by respondents; (c) Includes sales of non-automotive products such as household appliances, garden supplies, etc.
Source: "Franchising in the Economy, 1981-1983," Bureau of Industrial Economics, U.S. Department of Commerce

Drain Intervals

1983 Crankcase Drain Intervals and Recommended Oil

Make	Engine	Normal Service		Severe Service		Type of Oil
		Miles	Months	Miles	Months	
American Motors	All	7,500	7.5	2,500(a)	—	SF
Chrysler Dodge Plymouth	All	7,500	12	3,000	3	SF
Ford	—	—	—	—	—	—
Lincoln	4 (Turbo)	6,000	12	3,000	3	SF SF-CC SF-CD
Mercury	Others	7,500	12	3,000	3	SF SF-CC SF-CD
General Motors	Gasoline	7,500	12	3,000	3	SF SF-CC SF-CD
	4-cyl. Diesel	3,750	12	2,500	SF-CC	
	6&8-cyl. Diesel	5,000	—	2,500	3	SF-CC SF-CD

(a) Eagle only
Source: Gousha/Chek-Chart.

1983 Automatic Transmission Fluids and Drain Recommendations

Make	Fluid	Normal Service		Severe Service	
		Months	Miles	Months	Miles
American Motors	Dexron II	A	(b)	30	30,000
Chrysler	Dexron II (a)	—	(b)	—	15,000
Ford	Dexron II	—	(b)	—	30,000
		—	(b)	22½	22,500
General Motors	Dexron II (a)	—	100,000	—	15,000

(a) Including automatic transaxles.
(b) Drain not required for normal service.
Source: Gousha/Chek-Chart.

1983 Chassis Lubrication Intervals

Make	Normal Service		Severe Service		Type	Part Specification No.
	Months	Miles	Month	Miles		
American Motors	15(a)	15,000(a)	Shorter	Intervals	#2 Lithium	8991230
Chrysler	36	30,000	18(b)	15,000	#2 Barium EP	2525035
Ford	—	30,000	Shorter	Intervals	#2 Lithium (suspension)	MIC75-B
					#4-5 Lithium (steering)	MIC92-AII
General Motors	12	7,500	Shorter	Intervals	#1-2 Multipurpose EP	6031-M

(a) Eagle 7.5 months/12,500 miles; (b) Except front-wheel drive models; (c) Diesel engine cars: 5,000 miles.
Source: Gousha/Chek-Chart. Reprinted with permission.

Outlook for Tires and Batteries at Stations

Year	Replacement passenger tire shipments			Replacement automotive-type battery shipments		
	Total (in millions)	Station sales (a) (in millions)	Average per station (a)	Total (in millions)	Station sales (a) (in millions)	Average per station (a)
1982	132	26.4	182.5	54.2	16.3	113
1981	126	25.2	166.6	53.6	16.1	106
1980	107	21.4	135	50.0	15.0	95
1979	122	24.4	148	53.7	16.1	102
1978	135	27.0	157	56.3	16.9	102
1977	130	26.0	148	54.6	16.4	95
1976	123	24.6	132	49.2	14.8	84
1975	125	23.7	125	42.6	12.7	67
1974	124	24.8	127	44.4	13.3	68
1973	142	28.4	130	43.5	13.1	60
1972	140	28.0	127	43.2	13.0	59
1971	135	27.0	123	39.1	11.7	53
1970	130	26.0	118	37.9	11.4	51
1969	129	25.8	117	35.5	10.7	48
1968	121	24.2	110	33.8	10.1	46

(a) Estimates based on service stations holding 20% of the replacement market, and 30% of the replacement battery market; (b) In 1977, Rubber Manufacturers Assn. changed its base and eliminated motorcycle tires from the passenger tire shipments; all data, including that of 1976, have been restated to reflect this change; in addition, service-station totals have been revised to reflect a population of 184,400 in 1976; 176,465 in 1977; 172,230 in 1978; 164,752 in 1979; 158,540 in 1980; 151,250 in 1981; 144,690 in 1982—all estimates from 1978 on. Tire and battery totals otherwise from Rubber Manufacturers Assn. and Battery Council International.

Battery Shipments Hold Own in 1982

Battery shipments (replacement and original equipment) rose slightly—only 0.8%—in 1982, but did, nevertheless, increase, according to Battery Council International. Replacements were up 1.2% for the year, while original equipment declined 1.7%. Although the totals for the year were nothing to get excited about, they were definitely on the plus side for the second year in a row after two consecutive negative years (see table at right).

(Add 000)

Year	Replacements	% of Market	New cars & trucks	% of Market	Total market	% Change from previous year
1982	54,214	87.4%	7,819	12.6%	62,033	0.8%
1981	53,598	87.1	7,956	12.9	61,554	6.0
1980	50,063	86.2	8,009	13.8	58,072	-11.0
1979	53,746	82.4	11,480	17.6	66,226	-6.2
1978	56,389	81.4	12,910	18.6	62,299	3.0
1977	54,601	81.2	12,639	18.8	67,240	10.8
1976	49,202	81.0	11,477	19.0	60,679	17.6
1975	42,582	82.5	8,985	17.6	51,567	-5.3
1974	44,408	81.5	10,058	18.5	54,466	-2.9
1973	43,453	77.5	12,637	22.5	56,090	2.9
1972	43,220	79.3	11,271	20.7	54,491	9.5
1971	39,144	78.6	10,638	21.4	49,782	9.1
1970	37,389	81.9	8,239	18.1	45,629	0.5

Source: Replacement battery figures supplied by Battery Council International. New cars and trucks are U.S. factory sales figures provided by Motor Vehicle Manufacturers Assn.

Replacement Batteries

Total replacement battery shipments totaled 54.2-million units in 1982, with 12-volt and 6-volt automotive batteries accounting for 91.1% of the total, according to Battery Council International in its annual sales and activity report.

Replacement Batteries

Passenger cars and light trucks:

12-Volt: 44,207,764, or 81.5% of the total; 6-volt: 1,460,738, or 2.7% of the total.

Heavy duty commercial:

12-Volt: 2,002,945, or 3.4% of the total; 6-volt: 1,719,726, or 3.2% of the total.

Original Equipment

Passenger cars and light trucks:

12-Volt: 7,384,460, or 88.2% of the total; 6-volt: 31,169, or 0.4% of the total.

Heavy duty commercial:

12-Volt: 427,775, or 5.1% of the total; 6-volt: 80,946, or 1.0% of the total.

Source: Battery Council International.

Where Batteries Are Sold

Shipment in Units

Channels of Distribution	1982 (a)			1981 (a)		
	Private Brands	Mfr.'s Own Brand	Total	Private Brands	Mfr's Own Brand	Total
Gasoline & Oil	2,196,499	325,937	2,522,436	2,678,353	407,476	3,085,829
Tires & Rubber	1,852,582	331,496	2,184,078	1,569,843	750,740	2,320,583
Mass Merchandisers (Department and Discount Stores)	13,655,053	184,167	13,839,220	14,255,477	140,915	14,396,392
Mass Merchandisers (Auto Chains and Others)	4,577,363	230,890	4,808,253	4,133,712	791,568	4,925,280
Fleet Operations	10,316	300,879	311,195	5,513	308,712	314,225
Vehicle & Equipment Manufacturers	2,997,343	357,795	3,355,138	1,994,248	381,826	2,376,074
Parts Distributors	3,785,244	4,978,878	8,764,122	4,143,845	5,775,519	9,919,364
Battery Specialists	11,991,969	3,750,970	15,742,939	9,774,679	4,330,742	14,105,421
Others	318,600	823,682	1,142,282	115,249	656,571	771,820
Total	**41,384,969**	**11,284,694**	**52,669,663**	**38,670,919**	**13,214,988**	**52,214,988**

(a) Figures are based on 20 reporting companies; also 1982 figures are preliminary.
Source: Battery Council International.

Tire Shipments Flounder in '82

Like the automobile industry itself, tire shipments in 1982 were not anything to be happy about. Just about everything fell below the 1981 levels—everything except replacement tire shipments in the passenger car/motorcycle areas. These were up roughly 5-million units, or 4.1%. The only conclusion that can be drawn here is that people are keeping their cars longer and are replacing tires more readily than in bygone years. The slippage in 1982 followed on the heels of a relatively good year in 1981.

1982 Compared With 1981

	Passenger/ Motorcycle	Bus/ Truck	Farm Implement	Total by Type of Market
Original Equipment	-5.6%	-18.8%	-37.2%	-8.5%
Replacement	4.1	-1.1	-13.1	2.9
Export	-24.3	-41.8	-33.5	-30.5
Total by Type	**1.2%**	**-5.8%**	**-23.1%**	**-0.5%**

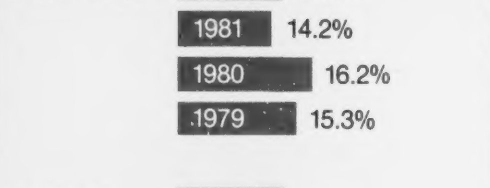
Source: NPN based on Rubber Manufacturers Statistical Report, Monthly.

Auto, Truck and Farm Tire Shipments

	Type of Tire (Add 000)							
	Passenger/ Motorcycle	% of Market	Bus/ Truck	% of Market	Farm Equipment	% of Market	Total of Market Type	% of Total
1982								
Original Equipment	34,150	85.8%	4,652	11.7%	1,003	2.8%	39,805	19.3%
Replacement	131,563	81.3	28,149	17.4	2,108	1.3	161,820	78.6
Export	3,051	73.8	966	23.4	115	2.8	4,132	2.0
Total	**168,764**	**82.0%**	**33,767**	**16.4%**	**3,226**	**1.6%**	**205,757**	——
1981								
Original Equipment	36,167	83.2%	5,732	13.2%	1,597	3.7%	43,496	21.0%
Replacement	126,415	80.4	28,453	18.1	2,427	1.5	157,295	76.1
Export	4,113	69.2	1,661	27.9	173	2.9	5,947	2.9
Total	**116,695**	**80.6%**	**35,846**	**17.3%**	**4,197**	**2.0%**	**206,738**	——

Source: Rubber Manufacturers Assn. Statistical Report, Monthly.

Where consumers get tuneups



Source: Champion Spark Plug Co.

Antifreeze Sales

Year	(Add 000 gal.) Type Ethylene glycol	Methanol	Total
1981	179,843	(*)	179,843
1980	184,340	(*)	184,340
1979	154,240	(*)	154,240
1978	137,161	(*)	137,161
1977	142,308	(*)	142,308
1976	143,332	(*)	143,332
1975	217,675	(*)	217,675
1974	186,936	(*)	186,936
1973	208,540	(*)	208,540
1972	200,703	(*)	200,703
1971	192,647	430	193,647
1970	177,606	455	178,061
1969	163,484	743	164,226
1968	152,438	1,138	153,576
1967	142,190	1,500	143,690

(*) Survey no longer conducted.
Source: Chemical Specialties Manufacturers Assn.

Ethylene Glycol-Base Antifreeze Sales—1981

	(Add 000 gal.) Civilian	Government
Packaged ethylene glycol antifreeze sold in:		
quarts and gallons	113,129	—0—
drums	9,957	*
Bulk ethylene glycol antifreeze (or ethylene glycol for antifreeze) sold to packagers	39,439	*
Bulk ethylene glycol antifreeze (or ethylene glycol for antifreeze) sold to motor-vehicle manufacturers for "drive-away" or factory-fill use	14,914	—0—
Total	**177,439**	**2,405**
Grand Total (Civ. and Govt.)		**179,843**

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*Insufficiently reported.
Source: Chemical Specialties Manufacturers Assn.

Oil Jobbers and TBA: 60% Do It

A Hunter Publishing Co. survey shows that six out of every 10 jobbers handle one or more TBA items. The ratio is higher in the Far West—seven out of 10. On the other hand, in the populous Northeast, the ratio dips to roughly four out of 10.

A third of the jobbers participating in the survey say they sell more than $100,000 worth of TBA items a year while a much smaller percentage, 6.5%, do more than $500,000 a year. The survey also shows that TBA sales account for 8.5% of the total dollar sales for the average TBA-oriented jobber.

Jobber involvement in TBA is heavy in oil and filters (46% of all jobbers carry these items); spark plugs (24%); windshield wiper refills (26.9%); ignition point sets (19.4%); belts (26%); radiator hose (22.5%); batteries (37.5%); lamps (26.6%); sealed beam headlights (27.2%); thermostats (20.6%); antifreeze (56.2%); and additives (26.8%).

The percentage of all jobbers handling shock absorbers (17.8%); mufflers (12.9%); brake shoes and pads (14.1%); oil and grease seals (13.3%); wire and cable products (13.3%); and air conditioning Freon (13.1%) is also substantial.

The Hunter Survey was made in 1982 by Great Lakes Marketing, an independent research firm.

The highlights are as follows:

Jobbers Handling Minimum One TBA Line

Total Response		Northeast		North Central		South		West	
No.	%	No.	%	No.	%	No.	%	No.	%
720	60.6	48	37.8	268	64.6	254	59.9	131	69.7

Annual TBA Sales Volume *(TBA Handling Jobbers)*

Annual TBA Sales Volume	Number of Respondents	% of Respondents
$ 1,000-19,999	164	33.2%
20,000-29,999	42	8.5
30,000-39,999	28	5.7
40,000-49,999	16	3.2
50,000-99,999	85	17.2
100,000-199,999	73	14.7
200,000-499,999	54	10.9
500,000 and Over	32	6.5
Mean Average		**$258,349**

TBA Percentage of Total Sales

TBA % of Total Jobber Sales	Number of Respondents	% of Respondents
1%	174	36.3%
2	49	10.2
3	23	4.8
4	15	3.1
5	61	12.7
6	5	1.0
7	7	1.5
8	11	2.3
9	4	.8
10	51	10.6
Over 10	79	16.3
Mean Average		**8.5%**

Jobber TBA Customer Types

Customer Type	Number of Respondents	% of Respondents (a)	% of TBA Sales Volume (b)
Service Stations Your Firm Owns & Operates	318	61.0%	34.1%
Service Stations Your Firm Owns & Leases	226	43.4	17.4
Other Service Stations	240	46.1	17.2
Repair Garages	119	22.8	3.4
Auto Parts Jobbers	47	9.0	1.7
Car/Truck Dealers	61	11.7	1.2
Retail Auto Parts Stores	47	9.0	1.5
Fleets	109	20.9	4.2
Farms	162	31.1	9.5
Marines	17	3.3	.2
Other	53	10.1	9.5

(a) Column three refers to the numbers cited in column two.
(b) Column four refers exclusively to those who sell to the given customer type.
Source: NPN/Hunter Publishing Co., April, 1982.

Storage Capacity at U.S. Refineries (a)

The year 1980 may have been the peak year for shell storage capacity for crude oil and petroleum products at the refineries operated by U.S. oil companies. In 1981 and again in 1982, many refineries were shut down permanently or were mothballed in such a way that they could be reactivated within 90 days or so. But the mere fact that 80 refineries closed their doors permanently in the two-year period, taking with them more than 1.5-million b/d of operable refining capacity, makes it clear that a substantial amount of storage went down the drain too. (For details on refinery closings, see the Refinery section.)

National Petroleum Council, which made the last survey of the industry at the request of the federal government, is again taking another reading. The results, however, are not expected to be available for perhaps a year or more. It takes a long time to collect the details, sort them out, eliminate duplication and arrive at a reasonable figure that will satisfy both government and industry as to accuracy and fairness. The capacity figures in the table below do not give any consideration to the storage caverns in the Southwest that the government is now using for its Strategic Petroleum Reserve of crude oil.

The capacity below is considered primary capacity. It does not involve the millions of gallons of tankage that is owned and operated at the secondary level by jobbers and distributors and suppliers. American Petroleum Institute is attempting to work out a formula to estimate the secondary storage capacity but at this time it is still in the concept stage.

(Add 000 bbl.)

P.A.D. Districts	Crude Oil	Gasoline Finished Leaded	Gasoline Finished Unleaded	Gasoline Blending Components	Gasoline Total	Middle Distillates	Residual Oils	Total Products(b)	Total Crude Oil and Products
P.A.D. District 1									
Delaware, Maryland	3,032	542	342	1,089	1,973	1,339	274	8,282	11,314
Florida, Georgia, North Carolina, Virginia	3,162	296	368	537	1,201	1,085	1,232	4,346	7,508
New Jersey	9,743	1,378	1,729	3,520	6,627	7,462	3,369	21,337	31,080
New York, New Hampshire	1,830	219	217	292	728	1,160	1,206	4,147	5,977
Pennsylvania	10,058	3,602	2,504	1,014	7,120	5,771	3,607	24,218	34,276
West Virginia	286	93	56	0	149	115	57	745	1,031
Total District 1	**28,111**	**6,130**	**5,216**	**6,452**	**17,798**	**16,932**	**9,745**	**63,075**	**91,186**
P.A.D. District 2									
Illinois	7,540	3,610	2,582	5,723	11,915	7,050	2,367	31,631	39,171
Indiana	2,313	1,132	1,033	2,973	5,138	3,241	2,872	20,345	22,658
Kansas	3,387	2,752	1,009	2,193	5,954	3,794	1,264	17,953	21,340
Kentucky, Tennessee	2,111	932	477	287	1,696	1,194	821	5,406	7,517
Michigan	3,128	674	466	412	1,552	1,868	1,111	8,310	11,438
Minnesota, Wisconsin	3,257	2,293	795	161	3,249	2,103	1,205	9,774	13,031
North Dakota	375	337	253	617	1,207	798	125	2,384	2,759
Ohio	3,261	2,602	1,851	2,144	6,597	3,208	720	14,637	17,898
Oklahoma	4,057	3,747	1,674	2,017	7,438	5,557	1,088	17,885	21,942
Total District 2	**29,429**	**18,079**	**10,140**	**16,527**	**44,746**	**28,813**	**11,573**	**128,325**	**157,754**
P.A.D. District 3									
Alabama	1,170	178	115	770	1,063	865	1,360	4,313	5,483
Arkansas	1,264	104	149	138	391	661	90	1,924	3,188
Louisiana	23,515	3,987	4,082	9,917	17,986	13,569	6,180	63,640	87,155
Mississippi	3,754	1,444	703	1,667	3,814	2,196	945	8,815	12,569
New Mexico	1,023	481	226	276	983	574	488	2,737	3,760
Texas	49,195	12,687	10,233	21,370	44,290	26,822	16,818	172,754	221,949
Total District 3	**79,921**	**18,881**	**15,508**	**34,138**	**68,527**	**44,687**	**25,881**	**254,183**	**334,104**
P.A.D. District 4									
Colorado	440	591	217	348	1,156	375	421	2,717	3,157
Montana	1,558	1,277	527	1,203	3,007	1,467	274	6,375	7,933
Utah	1,235	717	334	1,087	2,138	1,116	498	5,254	6,489
Wyoming	1,729	1,532	623	976	3,131	1,508	811	8,505	10,234
Total District 4	**4,962**	**4,117**	**1,701**	**3,614**	**9,432**	**4,466**	**2,004**	**22,851**	**27,813**
P.A.D. District 5									
California	30,566	5,204	6,043	10,110	21,357	7,934	17,030	71,241	101,807
Washington	7,852	1,321	1,085	1,305	3,711	1,091	984	9,761	17,613
Other States	2,842	263	114	661	1,038	843	1,487	4,737	7,579
Total District 5	**41,260**	**6,788**	**7,242**	**12,076**	**26,106**	**9,868**	**19,501**	**85,739**	**126,999**
Total U.S.	**183,683**	**53,995**	**39,807**	**72,807**	**166,609**	**104,766**	**68,704**	**554,173**	**737,856**

(a) As of Jan. 1, 1981; (b) total products includes asphalt, road oil, lube oil, propane, butane, jet fuel and miscellaneous items.

Source: National Petroleum Council.

Service Job Analysis: Who's Doing What in Service Bays

The 1981 Service Job Analysis reports on over 250 service jobs performed or products sold by approximately 323,000 repair outlets nationwide. Sixth in a series of triennial aftermarket studies done by Hunter Publishing Co., the survey included 120,000 service stations, 136,000 independent repair shops, 28,000 new car/truck dealer service departments, and 39,000 self-service fleet repair locations. A breakout covering only service stations begins on page 185.

Total Jobs Performed by All Shops (Universe—323,000 Shops)

		... by Type of Outlet (add 000)							
Job Description	Total Jobs Performed (add 000)	Service Stations	% of Jobs	Independent Repair Shops	% of Jobs	New Car/Truck Dealer Shops	% of Jobs	Self-Serviced Fleet Shops	% of Jobs
Lube Jobs (Car)	119,570	63,829	53.4	23,643	19.8	29,135	24.4	2,963	2.5
Lube Jobs (Truck/Bus)	26,610	8,450	31.8	4,177	15.7	3,756	14.1	10,227	38.4
Oil Changes (Car/Truck)	149,794	75,884	50.7	28,256	18.9	34,223	22.8	11,431	7.6
Oil Filters Replaced (Car/Truck)	142,334	69,650	48.9	28,884	20.3	31,768	22.3	12,059	8.5
Air Filters Replaced	50,040	23,053	46.1	14,367	28.7	8,728	17.4	3,892	7.8
Carburetors Installed (New)	1,460	557	38.2	600	41.1	192	13.2	111	7.6
Carburetors Installed (Rebuilt)	1,717	836	48.7	483	28.1	270	12.2	188	10.9
Carburetors Cleaned on Vehicles	7,920	3,431	43.3	2,663	33.6	1,456	18.4	370	4.7
Carburetors Overhauled (In Shop)	8,083	1,718	21.3	3,835	47.4	2,013	24.9	517	6.4
Fuel Pumps Installed (New)	4,365	1,476	33.8	1,864	42.7	746	17.1	279	6.4
Fuel Pumps Installed (Rebuilt)	1,181	514	43.5	353	29.9	205	17.4	109	9.2
Fuel Filters Replaced	41,965	13,496	32.2	15,344	36.6	8,457	20.2	4,668	11.1
Engine Tune-Ups (Car)	46,291	15,767	34.1	17,477	37.8	11,870	25.6	1,177	2.5
Engine Tune-Ups (Truck/Bus)	9,701	1,871	55.1	3,345	34.5	2,062	21.3	2,423	25.0
Spark Plugs (New)	297,412	95,091	32.0	122,753	41.3	63,786	21.4	15,782	5.3
Spark Plugs (Clnd/Regapped/Reinstalled)	31,812	12,133	38.1	11,411	35.9	4,599	14.5	3,669	11.5
Batteries Sold	21,540	10,736	49.8	5,729	26.6	2,641	12.3	2,434	11.3
Batteries Recharged	37,384	22,773	60.6	8,344	22.2	3,602	9.6	2,865	7.6
Battery Cables Sold	12,721	6,631	52.1	3,567	28.0	1,362	10.7	1,161	9.1
Alternators Installed (New)	1,620	666	41.1	524	32.3	277	17.1	153	9.4
Alternators Installed (Rebuilt)	10,995	4,686	42.6	4,332	39.4	1,055	9.6	922	8.4
Voltage Regulators Installed (New)	6,665	2,442	36.6	2,661	39.9	1,171	17.6	391	5.9
Voltage Regulators Installed (Reblt)	764	269	35.2	286	37.4	124	16.2	85	11.1
V-Belts Installed (All Types)	45,580	21,908	48.1	14,488	31.8	5,570	12.2	3,614	7.9
Radiator Hose Replaced (Rubber)	20,219	9,908	49.0	6,302	31.2	2,573	12.7	1,436	7.1
Radiator Hose Replaced (Silicone)	853	356	41.7	136	15.9	151	17.7	210	24.6
Heater Hose Replaced (Rubber)	14,390	5,972	41.5	5,725	39.8	1,575	10.9	1,118	7.8
Heater Hose Replaced (Silicone)	871	275	31.6	314	36.1	153	17.6	129	14.8
Permanent Anti-Freeze Sold (Gals)	67,581	30,408	45.0	17,238	25.5	10,913	16.1	9,022	13.3

Total Jobs Performed (cont.'d)

Job Description	Total Jobs Performed (add 000)	. . . by Type of Outlet (add 000)							
		Service Stations	% of Jobs	Independent Repair Shops	% of Jobs	New Car/Truck Dealer Shops	% of Jobs	Self-Serviced Fleet Shops	% of Jobs
Mufflers Replaced (Car)	11,461	5,083	44.4	4,572	39.9	1,590	13.9	216	1.9
Mufflers Replaced (Truck/Bus)	2,808	638	22.7	1,161	41.3	305	10.9	704	25.1
Tires Sold (Car-New)	30,070	19,354	64.4	7,362	24.5	2,729	9.1	625	2.1
Tires Sold (Truck/Bus-New)	4,039	1,671	41.4	1,000	24.8	278	6.9	1,090	27.0
Retread Tires Sold (Car)	3,802	1,929	50.7	1,238	32.6	260	6.8	375	9.9
Retread Tires Sold (Truck/Bus)	1,525	449	29.4	499	32.7	48	3.1	529	34.7
Tires Repaired	71,665	57,142	79.7	8,219	11.5	1,033	1.4	5,274	7.4
Tubes Sold (New)	6,054	4,153	68.6	1,322	21.8	98	1.6	481	7.9
Tubes Repaired	9,065	5,676	62.6	1,398	15.4	119	1.3	1,872	20.7
Engine Oil Additives Sold (Cans)	14,824	8,795	59.3	2,633	17.8	2,767	18.7	629	4.2
Gasoline Additives Sold (Cans)	18,333	12,309	67.1	3,023	16.5	2,121	11.6	880	4.8
Gear Lube Additives Sold (Cans)	2,700	1,246	46.1	640	23.7	624	23.1	190	7.0
Transmission Additives Sold (Cans)	5,306	3,018	56.9	1,716	32.3	507	9.6	65	1.2
Cooling System Additives Sold (Cans)	14,114	7,111	50.4	3,782	26.8	1,756	12.4	1,465	10.4
Cooling System Cleaner Sold (Cans)	7,541	4,228	56.1	1,606	21.3	1,253	16.6	454	6.0
Cooling System Sealer Sold (Cans)	9,417	6,550	69.6	1,841	19.5	707	7.5	319	3.4
Windshield Wiper Motors Repl. (New)	1,073	248	23.1	267	24.9	345	32.2	213	19.9
Windshield Wiper Motors Repl. (Reblt)	1,077	373	34.6	463	43.0	97	9.0	144	13.4
Windshield Wiper Arms Replaced	2,757	1,010	36.6	730	26.5	477	17.3	540	19.6
Windshield Wiper Refills Installed	34,614	21,132	61.1	7,634	22.1	4,044	11.7	1,804	5.2
Windshield Wiper Blades Replaced	21,889	10,527	48.1	5,145	23.5	3,464	15.8	2,753	12.6
Windshield Washer Pumps Replaced	2,759	1,073	38.9	1,053	38.2	457	16.6	176	6.4
Wash Jobs (Car-Automatic)	28,931	16,897	58.4	4,923	17.0	6,054	20.9	1,057	3.7
Wash Jobs (Truck/Bus-Automatic)	7,751	563	7.3	197	2.5	992	12.8	5,999	77.4
Engines Steam Cleaned (External)	6,331	888	14.0	1,350	21.3	1,902	30.0	2,191	34.6
Gasoline Pumps (Number)	765	651	85.1	54	7.1	6	.8	54	7.9
Service Bays (Number)	1,297	271	20.9	518	39.9	32.9	25.4	179	13.8

Jobs Performed by Service Stations (Universe—120,000 Stations)

Job Number and Description	% Stations Performing	Total Jobs Performed (add 000)	. . . by Census Region (add 000)								
			New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific
Lube Jobs (Car)	98.4	63,829	2,417	7,505	12,006	5,469	9,991	3,328	7,859	2,127	13,127
Lube Jobs (Truck/Bus)	67.9	8,450	385	774	1,414	945	1,516	568	824	715	1,309
Oil Changes (Car)	96.6	68,121	2,838	8,167	12,568	6,020	10,688	3,447	8,065	2,250	14,078
Oil Filters Replaced (Car)	97.0	63,019	2,752	7,713	11,417	6,095	9,869	3,333	6,994	2,111	12,735
Air Filters Replaced	86.1	23,053	1,508	2,867	4,450	1,954	3,952	732	2,780	1,137	3,673
Front Wheels Repacked (Car)	84.3	11,602	424	1,495	2,697	1,108	1,701	374	1,321	678	1,804
Oil Changes (Truck/Bus)	65.8	7,763	365	914	1,090	809	1,412	427	844	703	1,199
Oil Filters Replaced (Truck/Bus)	63.1	6,631	287	746	895	658	1,097	550	546	461	1,391

U.S. Refineries and Capacities by States

(Crude Oil Operating Capacity on Jan. 1, 1982)

Company	b/d
Alabama	
Coral Petroleum, Tuscaloosa	10,500
Hunt Oil Co., Tuscaloosa	35,500
Louisiana Land & Exploration Co., Mobile	41,300
Marion Corp., Theodore	25,500
Mobile Bay Refining Co., Chickasaw	26,600
Warrior Asphalt Co. of Alabama, Holt	5,500
Total	**142,900**
Alaska	
Atlantic Richfield Co., North Pole	14,200
Chevron U.S.A., Kenai	22,000
Earth Resources Co. of Alaska, North Pole	45,323
Tesoro Petroleum Corp., Kenai	48,500
Total	**130,023**
Arizona	
Arizona Fuels Corp., Fredonia	4,015
Total	**4,015**
Arkansas	
Berry Petroleum Co., Stephens	3,300
Cross Oil & Refining Co. of Arkansas, Smackover	6,800
Mcmillan Ring-Free Oil Co., Norphlet	4,400
Tosco Corp., El Dorado	38,500
Total	**53,000**
	***11,200**
California	
American Ultramar (formerly Bedcon Oil Co.,), Hanford	11,300
Anchor Refining Co. McKittrick	10,000
Atlantic Richfield Co., Carson	166,000
Champlin Petroleum Co., Wilmington	60,000
Chevron U.S.A., Bakersfield	26,000
El Segundo	390,000
	*15,000
Richmond	294,000
	*71,000
Coastal Petroleum Co., Paloma	*10,200
Conoco (formerly Continental Oil Co.), Paramount	26,300
	*20,200
Santa Maria	9,500
Demenno Resources, Compton	10,000
ECO Petroleum, Inc., Long Beach	*11,000
Edgington Oil Co., Long Beach	41,600
Exxon Co. U.S.A., Benecia	106,000
Fletcher Oil & Refining Co., Carson	24,575
Getty Refining & Marketing Co., Bakersfield	40,900
Gibson Oil & Refining Co., Bakersfield	4,600
Golden Eagle Refining Co., Inc., Carson	16,170
Gulf Oil Co. U.S., Santa Fe Springs	51,500
Huntway Refining Co., Wilmington	5,400
Kern County Refinery, Inc., Bakersfield	21,400
Lunday-Thagard Oil Co., South Gate	12,000
Mcmillan Ring-Free Oil Co., Long Beach	12,200
Marlex Oil & Refining, Inc., Long Beach	22,000
Mobil Oil Corp., Torrance	123,500
Newhall Refining Co., Newhall	17,600
Oxnard Refinery, Oxnard	4,000
Pacific Refining Co., Hercules	*85,000
Powerine Oil Co., Santa Fe Springs	44,120
Sabre Refining, Inc., Bakersfield	*10,000
San Joaquin Refining Co., Bakersfield	10,000
Shell Oil Co., Martinez	91,400
	*12,600
Wilmington	93,000
Sunland Refining Corp., Bakersfield	12,000
	*5,000
Texaco Inc., Wilmington	75,000
Tosco Corp., Avon	126,000
Bakersfield	39,500
U.S.A. Petrochem Corp., Ventura	24,000
Union Oil Co. of California	
Arroyo Grande	41,000
Rodeo	70,000
Wilmington	86,500
	*21,500
West Coast Oil Co., Oildale	*21,000
Witco Chemical Corp., Oildale	8,000
Total	**2,233,065**
	***301,600**
Colorado	
Asamera Oil (U.S.), Commerce City	38,800
Conoco, Commerce City	32,500
Gary Refining Co., Fruita	13,100
Total	**84,400**
Delaware	
Getty Refining & Marketing Co., Delaware City	140,000
Total	**140,000**
Florida	
Seminole Refining, Inc., St. Marks	*15,000
Total	***15,000**
Georgia	
Amoco Oil Co., Savannah	24,000
Young Refining Corp., Douglasville	5,000
Total	**29,000**
Hawaii	
Chevron U.S.A., Honolulu	48,000
Total	**48,000**
Illinois	
Clark Oil & Refining Corp.,	
Blue Island	66,500
Hartford	63,600
Dillman Oil Recovery, Inc., Robinson	*1,200
Marathon Oil Corp., Robinson	120,000
	*75,000
Mobil Oil Co., Joliet	180,000
Shell Oil Co., Wood River	283,000
Texaco Inc., Lawrenceville	84,000
Union Oil Co. of California, Lemont	151,000
Total	**948,100**
	***76,200**
Indiana	
Amoco Oil Co., Whiting	380,000
Energy Cooperative, Inc., East Chicago	*126,000
Gladieux Refinery, Inc., Fort Wayne	15,800
Indiana Farm Bureau Cooperative Assn., Mt. Vernon	21,200
Industrial Fuel & Asphalt of Indiana, Inc., Hammond	*7,600
Laketon Asphalt Refining Co., Laketon	8,500
Rock Island Refining Corp., Indianapolis	43,200
Total	**468,700**
	***133,600**
Kansas	
CRA, Inc., Coffeyville	56,500
Phillipsburg	26,400
Derby Refining Co., North Wichita	27,982
E-Z Serv Refining, Inc., Shallow Water	*9,500
Getty Refining & Marketing Co., El Dorado	80,577
Mid-America Refining Co., Chanute	*3,000
Mobil Oil Corp., Augusta	50,000
National Cooperative Refinery Association. McPherson	54,000
Pester Refining Co., El Dorado	35,000
Phillips Petroleum Co., Kansas City	80,000
Total Petroleum, Inc., Arkansas City	42,500
Total	**452,959**
	***12,500**
Kentucky	
Ashland Oil, Inc., Catlettsburg	213,400
Louisville	25,200
Kentucky Oil & Refining Co., Betsy Lane	*3,000
Somerset Refinery, Inc., Somerset	5,500
Total	**244,100**
	***3,000**
Louisiana Inland	
Atlas Processing Co., Shreveport	45,000
Bayou State Oil Corp., Hosston	*3,000
Calumet Refining Co., Princeton	3,500
	*2,031
Claiborne Gasoline Co., Lisbon	6,500
Cotton Valley Solvents Co., Cotton Valley	7,800
Kerr-McGee Corp., Dubach	10,780
Port Petroleum, Inc., Stonewall	1,800
	*1,400
Schulze Processing, Inc., Tallulah	*1,760
Total	**75,380**
	***8,191**
Louisiana Gulf	
Canal Refining Co., Church Point	8,000
Cities Service Co., Lake Charles	297,000
Conoco, Egan	1,500
	*5,000
Westlake	156,500
CPI Oil & Refining, Inc. (formerly Calcasieu Refining, Ltd.,), Lake Charles	14,000
Evangeline Refining Co., Jennings	4,500
Exxon Co. U.S.A., Baton Rouge	474,000
	*19,000
GRH Energy Corp. (formerly Good Hope Refineries, Inc., Good Hope)	100,000
Gulf Oil Co., U.S., Belle Chasse	198,900
Hill Petroleum Co., Krotz Springs	*57,400
International Processors, St. Rose	28,600
LaJet, Inc., St. James	20,000
Lake Charles Refining Co., Lake Charles	*28,700
Mallard Resources, Inc., Gueydon	7,400
Marathon Oil Co., Garyville	255,000
McTan Corp. (formerly Bruin Refining, Inc.,), Mt. Airy	*19,300
Mt. Airy Refining Co., Mt. Airy	23,000
Murphy Oil Corp., Meraux	90,200
Placid Refining Co., Port Allen	40,000
Shell Oil Co., Norco	218,000
Shepard Oil Co., Jennings	*39,000
Slapco Mermentau	13,500
Sooner Refining Co., Darrow	8,000
T & S Refining Inc., Jennings	*10,500
Tenneco Oil Co., Chalmette	114,000
Texaco Inc., Convent	140,000
Total	**2,212,100**
	***211,200**
Maryland	
Amoco Oil Co., Baltimore	15,000
Chevron U.S.A., Baltimore	*14,200
Total	**15,000**
	***14,200**

Company	b/d
Michigan	
Crystal Refining Co., Carson City	3,000
Lakeside Refining Co., Kalamazoo	5,600
Marathon Oil Co., Detroit	68,500
Texas American Petrochemicals, Inc., West Branch	*11,500
Total Petroleum, Inc., Alma	40,000
Total	**117,100**
	***11,500**
Minnesota	
Ashland Oil, Inc., St. Paul Park	67,143
Koch Refining Co., Rosemount	127,300
Total	**194,443**
Mississippi	
Amerada Hess Corp., Purvis	30,000
Chevron U.S.A., Pascagoula	280,000
Ergon Refining, Inc., Vicksburg	20,600
Natchez Refining Co., Natchez	*16,000
Southland Oil Co., Lumberton	5,800
Lumberton	5,800
Sandersville	11,000
Vicksburg Refining, Inc., Vicksburg	7,900
Total	**355,300**
	***16,000**
Missouri	
Amoco Oil Co., Sugar Creek	104,000
Total	**104,000**
Montana	
Conoco, Billings	52,500
Exxon Co. U.S.A., Billings	45,000
Farmers Union Central Exchange, Laurel	33,650
	*7,800
Flying J, Cut Bank	4,400
Kenco Refining, Inc., Wolf Point	4,700
Simmons Oil Co. (formerly Phillips Petroleum Co.,), Great Falls	6,000
Total	**146,250**
	***7,800**
Nebraska	
CRA, Inc., Scottsbluff	5,600
Total	**5,600**
Nevada	
Nevada Refining Co., Tonopah	4,180
Total	**4,180**
New Jersey	
Amerada Hess Corp., Port Reading	*68,000
Chevron U.S.A., Perth Amboy	168,000
Exxon Co. U.S.A., Linden	260,000
	*65,000
Mobil Oil Corp., Paulsboro	99,700
Seaview Petroleum Co., Paulsboro	44,400
Texaco Inc., Westville	90,000
Total	**602,000**
	***133,000**
New Mexico	
Caribou-Four Corners Oil Co., Farmington	2,400
Giant Industries, Inc., Farmington	13,500
Navajo Refining Co., Artesia	29,930
Plateau, Inc., Bloomfield	16,800
Shell Oil Co., Gallup	18,000
Southern Union Refining Co., Lovington	36,100
Thriftway Oil Co., Bloomfield	1,194
Total	**117,924**
New York	
Ashland Oil, Inc., Buffalo	64,000
Cibro Petroleum Products, Inc., Albany	33,900
Total	**97,900**
North Dakota	
Amoco Oil Co., Mandan	56,000
Flying J, Williston	4,250
Northland Oil & Refining Co., Dickinson	*5,000
Total	**60,250**
	***5,000**
Ohio East	
Ashland Oil, Inc., Canton	66,000
Total	**66,000**
Ohio West	
Ashland Oil, Inc., Findlay	20,400
Gulf Oil Co. U.S., Cleves	43,700
Standard Oil Co. of Ohio, Lima	168,000
Toledo	120,000
Sun Co., Toledo	125,000
Total	**477,100**
Oklahoma	
Allied Materials Corp., Stroud	7,200
Champlin Petroleum Co., Enid	53,600
Conoco, Ponca City	118,300
Hudson Refining Co., Inc., Cushing	19,000
Kerr-McGee Corp., Wynnewood	43,000
Oklahoma Refining Co., Cyril	15,600
Thomas (formerly Petrol Oil Co.)	10,700
Okmulgee Refining Co. (formerly Basin Refining Co.) Okmulgee	*25,000
Sun Co., Tulsa	88,500
Texaco Inc., Tulsa	50,000
Tonkawa Refining Co., Arnett	11,000
Tosco Corp. Duncan	47,000
Total Petroleum, Inc. Ardmore	62,000
Total	**526,100**
	***40,400**
Oregon	
Chevron U.S.A., Portland	*15,000
Total	***15,000**
Pennsylvania East	
Atlantic Richfield Co., Philadelphia	125,000
BP Oil Corp., Marcus Hook	164,000
Gulf Oil Co. U.S., Philadelphia	174,100
Sun Co., Marcus Hook	165,000
Total	**628,100**
Pennsylvania West	
Ashland Oil, Inc., Freedom	6,800
Coral Petroleum Inc. (formerly United Refining Co.), Warren	41,000
Pennzoil Co., Rouseville	14,600
Quaker State Oil Refining Corp. Emlenton	0
Smethport	6,700
Witco Chemical Corp., Bradford	6,841
Total	**75,941**
	***15,600**
Tennessee	
Delta Refining Co., Memphis	49,500
Total	**49,500**
Texas Inland	
American Petrofina Co. of Texas, Big Spring	40,000
Chevron U.S.A., El Paso	76,000
Clinton Manges (formerly Sector Refining Co.), Palestine	*6,000
Diamond Shamrock Corp., Sunray	71,100
Dorchester Refining Co., Mount Pleasant	24,000
White Deer	0
E-2 Refining Co. (formerly Winston Refining Co.), Fort Worth	20,000
Eagle Refining Corp., Jacksboro	*1,800
Flint Chemical Co., San Antonio	1,500
Howell Hydrocarbons, Inc., San Antonio	4,500
La Gloria Oil & Gas Co., Tyler	46,000
Liquid Energy Corp., Bridgeport	10,000
Listo Refining Co. (formerly Rancho Refining Co.), Donna	3,500
Longview Refining Co., Longview	*14,000
Petrolite Corp., Kilgore	1,000
Phillips Petroleum Co., Borger	95,000
Pioneer Refining Ltd., Nixon	13,000
Pride Refining, Inc., Abilene	33,000
Quitman Refining Co., Quitman	6,600
Shell Oil Co., Odessa	30,600
Sigmor Refining Corp., Three Rivers	32,000
TARCO, Euless	*6,000
Tesoro Petroleum Corp., Carrizo Springs	26,100
Texaco Inc., Amarillo	20,000
El Paso	17,000
Thriftway Oil Co., Graham	*1,184
Wickett Refining Co., Wickett	*8,000
Total	**591,350**
	***41,984**
Texas Gulf	
American Petrofina Co. of Texas, Port Arthur	90,000
Amoco Oil Co., Texas City	415,000
Atlantic Richfield Co., Houston	222,000
Brio Refining, Inc. (formerly Friendswood Refining Co.), Friendswood	12,500
Bronco Refining Co., Houston	*2,250
Champlin Petroleum Co., Corpus Christi	155,000
	*15,000
Charter International Oil Co., Houston	35,000
Coastal States Petroleum Co., Corpus Christi	92,000
	*69,000
Conoco, Inc. (formerly Monsanto Co.), Alvin/Texas City	37,194
Copano Refining Co., Ingleside	*11,100
Crown Central Petroleum Corp., Pasadena	100,000
Dow Chemical U.S.A., Freeport	*190,000
Eddy Refining Co., Houston	3,250
Exxon Co. U.S.A., Baytown	540,000
Gulf Oil Co. U.S.A., Port Arthur	281,700
Gulf States Oil & Refining Co., Corpus Christi	38,000
Independent Refining Corp., Port Neches **(formerly Erickson Refining Corp.)**	*30,000
Winnie	50,000
Marathon Oil Co., Texas City	49,000
	*20,500
Mobil Oil Corp., Beaumont	277,400
	*57,600
Petraco-Valley Oil & Refining Co., Brownsville	*12,300
Phillips Petroleum Co., Sweeny	175,000
Placid Refining Co., Mont Belvieu	8,500
Quintana Petrochemical Co. (formerly Neuces Petrochemical Co.), Corpus Christi	33,300
Rio Grande Crude Refining (formerly Gulf Energy Refining Corp.), Brownsville	*9,500
Rio Grande Recovery Systems, Inc. (formerly Val Verde International), Brownsville	*1,000
Saber Refining Co., Corpus Christi	*19,000
Sentry Refining, Inc., Corpus Christi	25,000
Shell Oil Co., Deer Park	285,000
South Hampton Co., Silsbee	18,100
Southwestern Refining Co., Corpus Christi	104,000
Texaco Inc., Port Arthur	402,000
Port Neches	31,000
Texas City Refining, Inc., Texas City	86,450
	*33,120
Texas Independent Corp. (formerly Uni Refining, Inc.), Ingleside	*30,000
Tipperary Refining Co., Ingleside	7,320
Union Oil Co. of California, Nederland	120,000
Total	**3,730,744**
	***703,670**
Utah	
Amoco Oil Co., Salt Lake City	39,000

Company	b/d
Caribou-Four Corners Oil Co., Woods Cross	3,000 *4,200
Chevron U.S.A., Salt Lake City	45,000
Husky Oil Co., North Salt Lake	25,000
Morrison Petroleum Co., Woods Cross	6,300
Phillips Petroleum Co., Woods Cross	24,000
Plateau, Inc., Roosevelt	7,500
Western Refining Co., Woods Cross	12,500
Total	**162,300** *4,200

Virginia

Company	b/d
Amoco Oil Co., Yorktown	53,000
Total	**53,000**

Washington

Company	b/d
Atlantic Richfield Co., Ferndale	115,000
Chevron U.S.A., Richmond Beach	5,500
Crysen Corp. (formerly Sound Refining, Inc.), Tacoma	6,000
Mobil Oil Corp., Ferndale	71,500
Shell Oil Co., Anacortes	91,000
Texaco Inc., Anacortes	78,000
U.S. Oil & Refining Co., Tacoma	20,000
United Independent Oil Co., Tacoma	*730
Total	**387,000** *730

West Virginia

Company	b/d
Elk Refining Co., a Div. of Pennzoil Co., Falling Rock	5,600
Quaker State Oil Refining Corp., Newell	11,700
St. Mary's	4,800
Total	**22,100**

Wisconsin

Company	b/d
Murphy Oil Corp., Superior	39,000
Total	**39,000**

Wyoming

Company	b/d
Amoco Oil Co., Casper	48,000
C & H Refinery, Inc., Lusk	*180
Glacier Park Co., Osage	*10,000
Husky Oil Co., Cheyenne	28,000
Cody	11,500
Little America Refining Co., Casper	24,500
Sinclair	60,000 *10,000
Mountaineer Refining Co. Inc., La Barge	700
Sage Creek Refining Co., Inc., Cowley	1,000
Silver Eagle Refining Co., La Barge	1,500
Texaco Inc., Casper	21,000
Wyoming Refining Co., Newcastle	12,555
Total	**209,555** *20,180

Hawaiian Foreign Trade Zone

Company	b/d
Hawaiian Independent Refinery, Inc., Ewa Beach	67,900
Total	**67,900**

Puerto Rico

Company	b/d
Commonwealth Oil Refining Co., Penuelas	60,454 *63,041
Gulf Oil Corp., Bayamon	36,000
Peerless Petrochemicals Inc., Ponce	*10,000
Phillips Puerto Rico Core, Inc., (b) Guayama	—
Sun Co., Yabucoa	86,000
Total	**182,454** *73,041

Virgin Islands

Company	b/d
Amerada Hess Corp., St. Croix	585,000
Total	**585,000**

Guam

Company	b/d
Guam Oil & Refining Corp., Agana	43,900
Total	**43,900**

*Capacity shut down but capable of being placed in operation within 90 days; (a) Although these refineries are normally shut down on Jan. 1, they are operated at or near capacity during the asphalt paving season; (b) Not included with refineries in the U.S. because they are located in foreign trade zones.

Source: Department of Energy, Energy Information Administration, Petroleum Supply Annual, 1982.

Lubricating Oil and Wax Capacities of U.S. Refineries

(All capacities in 000 b/d as of Jan. 1, 1983)

			Finished Lube Capacity					Wax Capacity	
Company	Location	Crude Capacity	A	B	C	D	Total	E	F
Allied Materials Corp.	Stroud, Okla.	8.0	0.8				0.8		0.2
Amoco Oil Co.	Casper, Wyo.	48.0	1.5		0.1		1.6	0.2	0.2
Amoco Oil Co.	Whiting, Ind.	376.0	6.2				6.2	0.6	
Ashland Oil, Inc.	Catlettsburg, Ky.	220.0	7.9				7.9		2.0
Ashland Oil, Inc.	Freedom, Pa.	6.5							
Atlantic Richfield Co.	Houston, Tex.	232.0	4.4			2.0	6.4	0.4	0.4
Calumet Refining Co.	Burnham, Ill.	0.0				0.6	0.6		
Calumet Refining Co.	Princeton, La.	4.4				3.2	3.2		
Chevron U.S.A. Inc.	Richmond, Calif.	365.0	3.0	2.3			5.3	1.2	1.0
Cit-Con Oil Corp.	Lake Charles, La.		10.0				10.0	1.0	0.8
Conoco Inc.	Ponca City, Okla.	134.0	2.0				2.0	0.2	
Cross Oil & Refining, Inc.	Smackover, Ark.	9.8				4.0	4.0		
Diamond Shamrock Corp.	Three Rivers, Tex.	2.0				2.0	2.0		
Exxon Co., U.S.A	Baton Rouge, La.	455.0	13.8		2.7		16.5	1.5	
Exxon Co., U.S.A	Baytown, Tex.	494.0	16.1	9.0		6.7	31.8		1.7
Farmland Industries, Inc.	Coffeyville, Kans.	56.5	2.5				2.5	0.2	
Gulf Refining and Marketing Co.	Port Arthur, Tex.	412.7	6.6	0.5	1.4	1.6	10.1		0.4
Lubrication Co. of America	Saugus, Calif.			0.5			0.5		
Macmillan Petroleum, Inc.	Norphlet, Ark.	6.0				2.2	2.2		
Mobil Oil Corp.	Beaumont, Tex.	325.0	9.2				9.2	1.3	0.3
Mobil Oil Corp.	Paulsboro, N.J.	99.7	7.1				7.1		0.3
Pennzoil Co.	Falling Rock, W. Va.	0.0			0.0		0.0	0.0	0.0
Pennzoil Co.	Rouseville, Pa.	15.7			4.4		4.4	0.6	0.4
Pennzoil Co., Atlas Processing Co.	Shreveport, La.	76.5	3.6		1.4	2.7	7.7	1.0	
Petrolite Corp.	Barnsdall, Okla.							0.4	
Petrolite Corp., Bareco Div.	Kilgore, Tex.	1.0							0.3
Phillips Petroleum Co.	Kansas City, Kans.	0.0	0.0				0.0		0.0
Quaker State Oil Ref. Corp.	Emlenton, Pa.							0.7	
Quaker State Oil Ref. Corp.	Farmers Valley, Pa.	6.5	2.5				2.5	0.4	0.5
Quaker State Ref. Corp.	Newell, W. Va.	11.7			3.6		3.6		0.8
Quaker State Oil Ref. Corp.	St. Mary's, W. Va.	4.9	1.6				1.6		0.3
Shell Oil Co.	Deer Park, Tex.	285.0	4.5			4.4	8.9	1.2	
Shell Oil Co.	Martinez, Calif.	91.4		3.5		0.3	3.8		
Shell Oil Co.	Wood River, Ill.	283.0	5.0				5.0		0.7
Standard Oil Co. (Ohio)	Lima, Ohio	168.0	2.0		0.4		2.4		
Sun Co., Inc.	Marcus Hook, Pa.	155.0	5.5			10.5	16.0	1.0	
Sun Co., Inc.	Tulsa, Okla.	85.0	7.8				7.8	0.8	
Sun Co., Inc.	Yabucoa, Puerto Rico	65.0	6.5				6.5		1.7
Texaco U.S.A	Port Arthur, Tex.	402.0	12.0	0.6	3.4	4.0	20.0	0.1	1.8
Union Oil Co. of Calif.	Nederland, Tex.	120.0	2.9				2.9	0.1	0.2
Union Oil Co. of Calif.	Rodeo, Calif.	70.0	4.0				4.0	0.6	1.5
Witco Chemical Corp.	Bradford, Pa.	7.8	1.6		0.9		2.5	0.2	
Witco Chemical Corp.	Oildale, Calif.	11.0		2.4		1.9	4.3		
	TOTAL:	5133.9	150.6	18.8	18.3	46.1	233.8	13.7	15.5

Canadian Refineries

Company	Location	Crude Capacity	A	B	C	D	Total	E	F
Gulf Canada Ltd.	Clarkson, Ontario	76.6	4.6				4.6		1.0
Imperial Oil Enterprises Ltd.	Sarnia, Ontario	126.0	5.1	0.7			5.8	0.6	1.6
Imperial Oil Enterprises Ltd.	Strathcona, Alberta	150.0	2.9				2.9		1.1
International Waxes, Ltd.	Agincourt, Ontario							0.8	
Shell Canada Ltd.	Montreal East, Quebec	31.0	3.4				3.4		1.0
	TOTAL:	383.6	16.0	0.7	0.0	0.0	16.7	1.4	4.7

Definitions: A—Solvent extracted paraffinic stocks; B—Solvent extracted naphthenic stocks; C—Unextracted paraffinic stocks; D—Unextracted naphthenic stocks; E—Fully refined, crude scale, and micro waxes; F—Semi-finished, slack waxes and petrolatums.

Source: National Petroleum Refiners Assn., Lubricating Oil and Wax Capacities, 1983.

U.S. Refinery Closings in 1981-1982

Excess crude oil supplies the world over and declining gasoline and fuel oil consumption at home and abroad sounded the death knell for many refineries in the United States.

The U.S. Department of Energy, in separate reports, said 57 refineries with more than 1.1-million b/d of crude distillation capacity were shut down in 1982 alone. In addition, the government said, another 1.5-million b/d of refinery capacity was reported as idle but capable of being brought back into production within 90 days.

The refinery closings in 1982 and the large reductions in capacity continued the trend started in 1981. During that year, the government said, 23 refineries with 451,000 b/d of crude distillation capacity were closed and another 260,000 b/d of capacity were mothballed.

The shutdowns, almost incredible in their own way, ended an uninterrupted trend in refinery capacity expansion that began way back in 1967.

Oddly, about 40% of the refineries that were shut down in 1982 were 25 years or more old while another 40% were less than five years old. More than half of the shutdowns had capacities of less than 10,000 b/d while 90% of them were under 50,000 b/d.

The end is nowhere in sight. The year 1983 had hardly gotten underway when more refinery closings were announced, among them Chevron's 168,000 b/d unit at Perth Amboy, N.J., and Ashland Oil's 26,000 b/d plant at Lexington, Ky.

The government countdown for the last two years follows below.

Shutdowns in 1982

PAD District/Refinery	b/d
East Coast	
Amoco Oil Co., Baltimore, Md.	15,000
Ashland Oil, Buffalo, N.Y.	64,000
Seminole Refining, St. Marks, Fla.	15,000
Total	**94,000**
Midwest	
Amoco Oil Co., Sugar Creek, Mo.	104,000
Ashland Oil, Findlay, Ohio	20,400
CRA, Scottsbluff, Neb.	5,600
CRA, Phillipsburg, Kan.	26,400
Dillman Oil Recovery, Oblong, Ill.	1,200
E-Z Serv Refining, Shallow Water, Kans.	9,500
Energy Cooperative, East Chicago, Ind.	126,000
Industrial Fuel & Asphalt of Indiana, Hammond, Ind.	7,600
Kentucky Oil & Refining Co., Betsy Lane, Ky.	3,000
Mid-America Refining Co., Chanute, Kan.	3,000
Northland Oil & Refining Co., Dickinson, N.D.	5,000
Phillips Petroleum Co., Kansas City, Kan.	80,000
Texaco, West Tulsa, Okla.	50,000
Texas America Petrochemicals, West Branch, Mich.	11,500
Total	**453,200**
Gulf Coast	
Bayou State Oil Corp.,Hosston, La.	3,000
Bronco Refining Co., Houston, Tex.	2,250
Caribou-Four Corners Oil Co., Kirtland, N.M.	2,400
Clinton Manges, Palestine, Tex.	6,000
Copano Refining Co., Ingleside, Tex.	11,100
Dow Chemical U.S.A., Freeport, Tex.	190,000
Eagle Refining Corp., Jacksboro, Tex.	1,800
Giant Industries, Farmington, N.M.	13,500
Independent Refining Corp., Pt. Neches, Tex.	30,000
Independent Refining Corp., Winnie, Tex.	50,000
Lake Charles Refining Co., Lake Charles, La.	28,000
Listo Refining Co., Donna, Tex.	3,500
Longview Refining Co., Longview, Tex.	14,000
Natchez Refining Co., Natchez, Miss.	16,000
Petraco-Valley Oil & Refining Co., Brownsville, Tex.	12,300
Placid Oil Co., Mont Belvieu, Tex.	8,500
Quitman Refining Co., Quitman, Tex.	6,600
Rio Grande Crude Refining, Brownsville, Tex.	9,500
Rio Grande Recovery Systems, Brownsville, Tex.	1,000
Schulze Processing, Tallulah, La.	1,760
Sentry Refining, Corpus Christi, Tex.	25,000
Shepard Oil Co., Jennings, La.	10,000
Sooner Refining Co., Darrow, La.	8,000
T & S Refining, Jennings, La.	10,500
TARCO, Euless, Tex.	6,000
Tipperary Refining Co., Wickett, Tex.	7,320
Vicksburg Refining Co., Vicksburg, Miss.	7,900
Wickett Refining Co., Wickett, Tex.	8,000
Total	**493,930**
Rocky Mountain	
C & H Refinery, Lusk, Wyo.	180
Caribou-Four Corners Oil Co., Woods Cross, Utah	7,200
Glacier Park Co., Osage, Wyo.	10,000
Husky Oil Co., Cody, Wyo.	11,500
Morrison Petroleum Co., Woods Cross, Utah	6,300
Sage Creek Refining Co., Cowley, Wyo.	1,000
Texaco, Casper, Wyo.	21,000
Total	**57,180**
West Coast	
Gibson Oil & Refining Co., Bakersfield, Calif.	4,600
Lunday-Thagard Oil Co., South Gate, Calif.	12,000
Sabre Oil & Refining, Bakersfield, Calif.	10,000
United Independent Oil Co., Tacoma, Wash.	730
West Coast Oil Co., Oildale, Calif.	21,000
Total	**48,330**
U.S. Total for 1982	**1,146,640**

Shutdowns in 1981

PAD District/Refinery	b/d
East Coast	
ATC Petroleum, Wilmington, N.C.	11,900
ATC Petroleum, Newington, N.H.	13,400
Manatee Energy Co., Port Manatee, Fla.	28,400
Mobil Oil Corp., Buffalo, N.Y.	43,000
Total	**96,700**
Midwest	
Amoco Oil Co., Wood River, Ill.	104,000
Conoco Inc., Wrenshall, Minn.	23,500
Dow Chemical U.S.A., Bay City, Mich.	20,000
Energy Development, Crossville, Ill.	1,000
Gulf Oil Corp., Toledo, Ohio	50,300
Kentucky Oil and Refining Co., Troy, Ind.	1,500
Texaco, Lockport, Ill.	72,000
Wireback Oil Co., Plymouth, Ill.	1,800
Total	**274,100**
Gulf Coast	
Adobe Refining Co., La Blanca, Tex.	5,200
Carbonit Refinery, Hearne, Tex.	11,000
Gulf Oil Corp., Venice, La.	28,700
Southern Union Refining Co., Monument, N.M.	5,400
Southland Oil Co., Yazoo City, Miss.	5,500
Texas Refining Co., Midland, Tex.	2,500
Texas Standard Refining, Houston, Tex.	1,800
Total	**60,100**
Rocky Mountain	
Glenrock Refinery, Glenrock, Wyo.	6,000
Southwestern Refining Co., La Barge, Wyo.	1,040
Total	**7,040**
West Coast	
Quad Refining Corp., Bakersfield, Calif.	7,000
Road Oil Sales, Bakersfield, Calif.	6,000
Total	**13,000**
U.S. Total for 1981	**450,940**

Source: Department of Energy, Petroleum Supply Annual for 1981; Petroleum Supply Monthly, February, 1983, for 1982.

U.S. Refineries and Capacities by Companies

(In Descending Order as of Jan. 1, 1982)

Important Note: This listing by companies includes capacity that is operating and capacity that is shut down, i.e., in the latter case, capacity that can be restored to active operations in 90 days or less. Energy Information Administration says 23 refineries, with an operating capacity of 450,940 b/d, were shut down permanently in calendar year 1982. EIA says that on Jan. 1, 1982, there were 175 companies with 301 refineries and 17,889,734 b/d of capacity (including shut down capacity).

Companies controlling more than 100,000 b/d of crude oil capacity:
No. of companies: 32; No. of refineries: 131; Total capacity: 14,941,876 b/d.

Company	b/d
Exxon Corp.	
Exxon Co. U.S.A.	
Baytown, TX	640,000
Baton Rouge, LA	493,000
Linden, NJ	265,000
Benicia, CA	106,000
Billings, MT	45,000
Total	1,549,000
Standard Oil Co. of California	
Chevron U.S.A.	
El Segundo, CA	405,000
Richmond, CA	365,000
Pascagoula, MS	280,000
Perth Amboy, NJ	168,000
El Paso, TX	76,000
Honolulu, HI	48,000
Salt Lake City, UT	45,000
Bakersfield, CA	26,000
Kenai, AK	22,000
Willbridge, OR	15,000
Baltimore, MD	14,200
Richmond Beach, WA	5,500
Total	1,469,700
Shell Oil Co.	
Deer Park, TX	285,000
Wood River, IL	283,000
Norco, LA	257,000
Martinez, CA	104,000
Wilmington, CA	93,000
Anacortes, WA	91,000
Odessa, TX	30,600
Gallup, NM	18,000
Total	1,161,600
Standard Oil Co. of Indiana	
Amoco Oil Co.	
Texas City, TX	415,000
Whiting, IN	380,000
Sugar Creek, MD	104,000
Mandan, ND	56,000
Yorktown, VA	53,000
Casper, WY	48,000
Salt Lake City, UT	39,000
Savannah, GA	24,000
Baltimore, MD	15,000
Total	1,134,000
Texaco Inc.	
Port Arthur, TX	402,000
Convent, LA	140,000
Westville, NJ	90,000
Lawrenceville, IL	84,000
Anacortes, WA	78,000
Wilmington, CA	75,000
West Tulsa, OK	50,000
Port Neches, TX	31,000
Casper, WY	21,000
Amarillo, TX	20,000
El Paso, TX	17,000
Total	1,008,000
Mobil Oil Corp.	
Beaumont, TX	335,000
Joliet, IL	180,000
Torrance, CA	123,500
Paulsboro, NJ	99,700
Ferndale, WA	71,500
Augusta, KS	50,000
Total	859,700
Gulf Oil Corp.	
Port Arthur, TX	335,000
Belle Chasse, LA	198,900
Philadelphia, PA	174,100
Santa Fe Springs, CA	51,500
Cleves, OH	43,700
Total	803,200
Atlantic Richfield Co.	
Houston, TX	222,000
Carson, CA	166,000
Philadelphia, PA	125,000
Ferndale, WA	115,000
North Slope, AK	14,200
Total	642,200
Marathon Oil Co.	
Garyville, LA	255,000
Robinson, IL	195,000
Texas City, TX	69,500
Detroit, MI	68,500
Total	588,000
Union Oil Co. of California	
Lemont, IL	151,000
Beaumont, TX	120,000
Wilmington, CA	108,000
Rodeo, CA	70,000
Arroyo Grande, CA	41,000
Total	490,000
DuPont Holdings, Inc.	
Conoco Inc.	
Alvin/Texas City, TX	37,194
West Lake, LA	156,500
Ponca City, OK	133,700
Billings, MT	52,500
Paramount, CA	46,500
Denver, CO	32,500
Santa Maria, CA	9,500
Egan, LA	6,500
Total	474,894
Ashland Oil	
St. Paul Park, MN	67,143
Louisville, KY	25,200
Freedom, PA	6,800
Catlettsburg, KY	213,400
Canton, OH	66,000
Buffalo, NY	64,000
Findlay, OH	20,400
Total	462,943
Standard Oil Co. of Ohio	
Lima, OH	168,000
Toledo, OH	120,000
BP Oil Corp.	
Marcus Hook, PA	164,000
Total	452,000
Sun Co.	
Marcus Hook, PA	165,000
Toledo, OH	125,000
Tulsa, OK	88,500
Total	378,500
Phillips Petroleum Co.	
Sweeny, TX	175,000
Borger, TX	95,000
Kansas City, KS	80,000
Woods Cross, UT	24,000
Total	374,000
Cities Service Co.	
Lake Charles, LA	320,000
Union Pacific Corp.	
Champlin Petroleum Co.	
Corpus Christi, TX	170,000
Wilmington, CA	60,000
Enid, OK	53,800
Total	283,800
Getty Oil Co.	
Getty Refining & Marketing Co.	
Delaware City, DE	140,000
El Dorado, KS	80,577
Bakersfield, CA	60,000
Total	280,577
Coastal Corp.	
Coastal States Petroleum Co.	
Corpus Christi, TX	161,000
Pacific Refining Co.	
Hercules, CA	85,000
Derby Refining Co.	
North Wichita, KS	27,982
Total	273,982
Tosco Corp.	
Avon, CA	126,000
Duncan, OK	47,000
El Dorado, AR	47,000
Bakersfield, CA	39,500
Total	259,500
Dow Chemical Co.	
Dow Chemical U.S.A.	
Freeport, TX	190,000
Koch Industries	
Koch Refining Co.	
Corpus Christi, TX	57,000
Rosemont, MN	127,300
Total	184,300
Kerr-McGee Corp.	
Wynnewood, OK	43,000
Dubach, LA	10,780
Southwestern Refining Co.	
Corpus Christi, TX	104,000
Cotton Valley Solvents Co.	
Cotton Valley, LA	7,800
Total	165,580
Apex Oil Co.	
Clark Oil & Refining Corp.	
Blue Island, IL	66,500
Hartford, IL	63,600
Mt. Airy, LA	23,000
Total	153,100
American Petrofina Co. of Texas	
Port Arthur, TX	90,000
Big Spring, TX	60,000
Total	150,000
Total Petroleum	
Ardmore, OK	62,000
Arkansas City, KS	42,500
Alma, MI	40,000
Total	144,500
Murphy Oil Corp.	
Meraux, LA	90,200
Superior, WI	39,000
Total	129,200
Energy Cooperative	
East Chicago, IN	126,000
Agway Petroleum Corp.	
Texas City Refining	
Texas City, TX	119,600

Company	b/d
Tenneco Oil Co.	
Chalmette, LA	114,000
Crown Central Petroleum Corp.	
Pasadena, TX	100,000
GHR Energy Corp.	
Good Hope, LA	100,000

Companies controlling 30,000 b/d to 99,999 b/d.

No. of companies: 31; No. of refineries: 44; Total capacity: 1,654,093 b/d.

Company	b/d
Amerada Hess Corp.	
Port Reading, NJ	68,000
Purvis, MS	30,000
Total	98,000
Earth Resources Co.	
Delta Refining Co.	
Memphis, TN	49,500
Earth Resources Co. of Alaska	
North Pole, AK	45,323
Total	94,823
Little America Refining Co.	
Sinclair, WY	70,000
Casper, WY	24,500
Total	94,500
Farmland Industries	
CRA, Inc.	
Coffeyville, KS	56,500
Phillipsburg, KS	26,400
Scotts Bluff, NE	5,600
Total	88,500
Independent Refining Corp.	
Winnie, TX	50,000
Port Neches, TX	30,000
Total	80,000
Tesoro Petroleum Corp.	
Carrizo Springs, TX	26,100
Tesoro-Alaskan Petroleum Corp.	
Kenai, AK	48,500
Total	74,600
Diamond Shamrock Corp.	
Sunray, TX	71,100
Husky Oil Co.	
Cheyenne, WY	28,800
Cody, WY	11,500
North Salt Lake, UT	25,000
Total	65,300
Pennzoil Co.	
Rouseville, PA	14,600
Atlas Processing Co.	
Shreveport, LA	45,000
Elk Refining Co.	
Falling Rock, WV	5,600
Total	65,200
Charter Oil Co.	
Charter International Oil Co.	
Houston, TX	65,000
Goldking Refining Ltd.	
Hill Petroleum Co.	
Krotz Springs, LA	57,400
National Cooperative Refinery Assn.	
McPherson, KS	54,000
Coral Petroleum	
Warren, PA	41,000
Tuscaloosa, AL	10,500
Total	51,500
Placid Oil Co.	
Placid Refining Co.	
Port Allen, LA	40,000
Mont Belvieu, TX	8,500
Total	48,500
Texas Eastern Transmission Corp.	
La Gloria Oil & Gas Co.	
Tyler, TX	46,000
Seaview Petroleum Co.	
Paulsboro, NJ	44,400
Powerine Oil Co.	
Santa Fe Springs, CA	44,120
Rock Island Refining Corp.	
Indianapolis, IN	43,200
Penn Central Corp.	
Edgington Oil Co.	
Long Beach, CA	41,600
Farmers Union Central Exchange	
Laurel, MT	41,450
Louisiana Land & Exploration Co.	
Mobile, AL	41,300
Asamera Oil (U.S.)	
Commerce City, CO	38,800
Gulf States Oil & Refining Co.	
Corpus Christi, TX	38,000
Southern Union Co.	
Southern Union Refining Co.	
Lovington, NM	36,100
Pester Corp.	
Pester Refining Co.	
El Dorado, KS	35,000
Cirillo Brothers Oil Co.	
Cibro Petroleum Products	
Albany, NY	33,900
Hunt Oil Co.	
Tuscaloosa, AL	33,500
Quintana Petrochemical Co.	
Corpus Christi, TX	33,300
Pride Refining	
Abilene, TX	33,000
Sigmor Corp.	
Sigmor Refining Co.	
Three Rivers, TX	32,000
Texas Independent Corp.	
Ingleside, TX	30,000

Companies controlling from 10,000 b/d to 29,999 b/d of crude oil capacity:

No. of companies: 60; No. of refineries: 70; Total capacity: 1,046,271 b/d.

Company	b/d
Holly Corp.	
Navajo Refining Co.	
Artesia, NM	29,930
E-Z Serv Inc.	
Fort Worth, TX	20,000
Shallow Water, KS	9,500
Total	29,500
International Processors	
St. Rose, LA	28,600
Aweco	
Lake Charles Refining Co.	
Lake Charles, LA	28,000
Mobile Bay Refining Co.	
Chickasaw, AL	26,600
Oklahoma Refining Co.	
Thomas, OK	10,700
Cyril, OK	15,600
Total	26,300
Marion Corp.	
Theodore, AL	25,500
Okmulgee Refining Co.	
Okmulgee, OK	25,000
Sentry Refining	
Corpus Christi, TX	25,000
Fletcher Oil & Refining Co.	
Carson, CA	24,575
Suburban Propane Gas Corp.	
Plateau Inc.	
Bloomfield, NM	16,800
Roosevelt, UT	7,500
Total	24,300
Dorchester Gas Corp.	
Dorchester Refining Co.	
Mount Pleasant, TX	24,000
U.S.A. Petrochem Corp.	
Ventura, TX	24,000
Quaker State Oil Refining Corp.	
Newell, WV	11,700
Smethport, PA	6,700
St. Mary's, WV	4,800
Total	23,200
Marlex Petroleum	
Marlex Oil & Refining	
Long Beach, CA	22,000
Kern County Refinery	
Bakersfield, CA	21,400
Indiana Farm Bureau Cooperative Assn.	
Mount Vernon, IN	21,200
West Coast Oil Co.	
Oildale, CA	21,000
Ergon Refining Inc.	
Vicksburg, MS	20,600
Texas NAPCO Inc.	
La Jet Inc.	
St. James, LA	20,000
Time Oil Co.	
U.S. Oil & Refining Co.	
Tacoma, WA	20,000
McTan Corp.	
St. James, LA	19,300
Hudson Oil Co.	
Hudson Refining Co.	
Cushing, OK	19,000
Saber Energy	
Saber Refining Co.	
Corpus Christi, TX	19,000
Texas Oil & Chemical Co.	
South Hampton Refining Co.	
Silsbee, TX	18,100
Tomlinson Refining	
Pioneer Refining Ltd.	
Nixon, TX	18,000
Newhall Refining Co.	
Newhall, CA	17,600
American Ultramar Ltd.	
Hanford, CA	17,300
Crystal Oil Co.	
Longview Refining Co.	
Longview, TX	14,000
Berry Petroleum Co.	
Stephens, AK	3,300
Total	17,300
World Oil Co.	
Sunland Refining Corp.	
Bakersfield, CA	17,000
V G S Corp.	
Southland Oil Co.	
Sandersville, MS	11,000
Lumberton, MS	5,800
Total	16,800
MacMillan Ring-Free Oil Co.	
Long Beach, CA	12,200
Norphlet, AK	4,400
Total	16,600

Company	b/d
Ultramar Co. Ltd.	
Golden Eagle Refining Co.	
Carson, CA	16,170
Mid-Continent Systems	
Natchez Refining Co.	
Natchez, MS	16,000
Gladieux Refining	
Fort Wayne, IN	15,800
Seminole Oil Co.	
Seminole Refining	
St. Marks, FL	15,000
Witco Chemical Corp.	
Oildale, CA	8,000
Bradford, PA	6,841
Total	14,841
CPI Oil and Refining	
Lake Charles, LA	14,000
Central Louisiana Energy	
Slapco	
Mermentau, LA	13,500
Giant Industries	
Farmington, NM	13,500
Gary Energy Co.	
Gary Refining Co.	
Fruita, CO	13,100
Hermes Products Co.	
Wyoming Refining Co.	
Newcastle, WY	12,555
Brio Refining	
Friendswood, TX	12,500
Western Refining Co.	
Woods Cross, UT	12,500
Petraco-Valley Oil & Refining Co.	
Brownsville, TX	12,300
Thagard Oil Co.	
Lunday-Thagard Oil Co.	
South Gate, CA	12,000
Texas American Oil	
Texas American Petrochemical	
West Branch, MI	11,500
Copano Refining Co.	
Ingleside, TX	11,100
Marley	
ECO Petroleum	
Long Beach, CA	11,000
Tonkawa Refining Co.	
Arnett, OK	11,000
T & S Refining	
Jennings, LA	10,500
Vedette Energy	
Rio Grande Crude Refining	
Brownsville, TX	9,500
Rio Grande Recovery Systems	
Brownsville, TX	1,000
Total	10,500
Coastal Petroleum Co.	
Paloma, CA	10,200
Burlington Northern	
Glacier Park Co.	
Osage, WY	10,000
Demenno-Kerdoon Resources	
Compton, CA	10,000
Mitchell Energy & Development	
Liquid Energy Corp.	
Bridgeport, TX	10,000
Sabre Refining	
Bakersfield, CA	10,000
San Joaquin Refining Co.	
Oildale, CA	10,000

Company	b/d
Shepard Oil	
Jennings, LA	10,000
Sierra Anchor/Sierra Energy Assn.	
Anchor Refining Co.	
McKittrick, CA	10,000

Companies controlling 9,999 b/d or less crude oil capacity: **No. of companies: 52; No. of refineries: 56; Total capacity: 247,494 b/d.**

Company	b/d
Caribou-Four Corners Oil Co.	
Woods Cross, UT	7,200
Farmington, NM	2,400
Total	9,600
Moore & Munger	
Cross Oil & Refining Co. of Arkansas	
Smackover, AK	9,500
Flying J	
Cutbank, MT	4,400
Williston, ND	4,250
Total	8,650
Lakeside Refining Co.	
Kalamazoo, MI	5,600
Crystal Refining Co.	
Carson City, MI	3,000
Total	8,600
Southern Independent Oil & Refining	
Laketon Asphalt Refining Co.	
Laketon, IN	8,500
Adobe Oil & Gas Co.	
Wickett Refining Co.	
Wickett, TX	8,000
Canal Refining Co.	
Church Point, LA	8,000
Sooner Refining Co.	
Darrow, LA	8,000
Vicksburg Refining	
Vicksburg, MS	7,900
Industrial Fuel & Asphalt Co.	
Industrial Fuel & Asphalt of Indiana	
Hammond, IN	7,600
Mallard Resources	
Gueydan, LA	7,400
Tipperary Corp.	
Tipperary Refining Co.	
Ingleside, TX	7,320
Allied Materials Corp.	
Stroud, OK	7,200
Quitman Refining Co.	
Quitman, TX	6,600
Claiborne Gasoline Co.	
Lisbon, LA	6,500
Morrison Petroleum Co.	
Woods Cross, UT	6,300
Clinton Manges Oil & Refining Co.	
Palestine, TX	6,000
Crysen Corp.	
Tacoma, WA	6,000
Simmons Oil Co.	
Great Falls, MT	6,000
Texas Armada Refining Co.	
TARCO	
Euless, TX	6,000
Calumet Industries	
Calumet Refining Co.	
Princeton, LA	5,531
Somerset Refining	
Somerset, KY	5,500

Company	b/d
Warrior Asphalt Co. of Alabama	
Holt, AL	5,500
Huntway Refining Co.	
Wilmington, CA	5,400
Northland Oil & Refining Co.	
Dickinson, ND	5,000
Young Refining Corp.	
Douglasville, GA	5,000
Kenco Refining	
Wolf Point, MT	4,700
Gibson Oil & Refining Co.	
Bakersfield, CA	4,600
Evangeline Refining Co.	
Jennings, LA	4,500
Howell Corp.	
Howell Hydrocarbons	
San Antonio, TX	4,500
Nevada Refining Co.	
Tonopah, NV	4,180
Arizona Fuels Corp.	
Fredonia, AZ	4,015
Oxnard Refinery	
Oxnard, CA	4,000
Listo Petroleum Co.	
Donna, TX	3,500
Eddy Refining Co.	
Houston, TX	3,250
Port Petroleum	
Stonewall, LA	3,200
Bayou State Oil Corp.	
Hosston, LA	3,000
Kentucky Oil & Refining Co.	
Betsy Lane, KY	3,000
Mid-America Refining Co.	
Chanute, KS	3,000
Thriftway Co.	
Bloomfield, NM	1,194
Graham, TX	1,184
Total	2,378
Bronco Refining Co.	
Houston, TX	2,250
Eagle Refining Corp.	
Jacksboro, TX	1,800
Schulze Processing	
Tallulah, LA	1,760
Flint Ink Corp.	
Flint Chemical Co.	
San Antonio, TX	1,500
Silver Eagle Refining Co.	
La Barge, WY	1,500
Dillman Oil Recovery	
Oblong, IL	1,200
Petrolite Corp.	
Kilgore, TX	1,000
Sage Creek Refining Co.	
Cowley, WY	1,000
United Independent Oil Co.	
Tacoma, WA	730
Mountaineer Refining Co.	
La Barge, WY	700
Shore Inc.	
Kilgore, TX	450
C & H Refinery	
Lusk, WY	180

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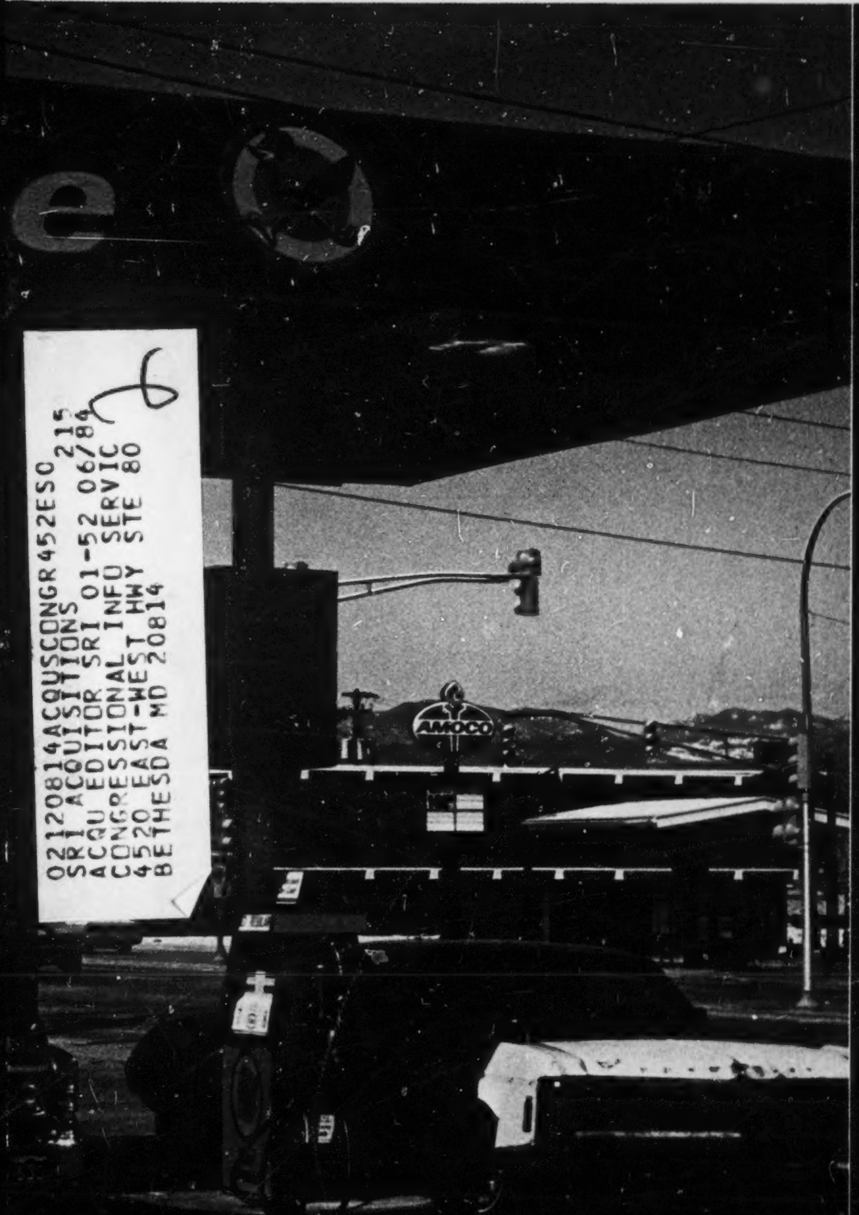
What Automated Pumps Can Do Nowadays
Is a New Octane Race Developing?
How Ohio's Englefield Tripled Gallonage

NPN

National Petroleum News

A PUBLICATION FOR MARKETING MANAGEMENT • OPERATIONS • FUEL OIL • TBA/AFTERMARKET



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Who Is
Winning
In Denver?

NATIONAL PETROLEUM NEWS

JULY 1983 VOL. 75 NO. 7

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Competing dealers can't find dissent among Arco's retailers

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Georgia dealer's direct-op suit carries contradictory implications

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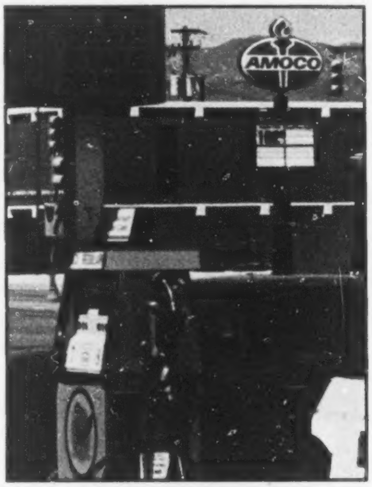

Denver has been called the toughest "non-water" market in the U.S., swinging back and forth over the years between majors and independents. These days, the majors' onslaught is led by Amoco, while a host of rugged indies also vie to be king of the mountain marketplace. **Page 38.**
Cover photograph by Thomas Olson.

Bill Englefield's company has prospered during de-control, survived slim margins and squeezed a profit from a shrinking gasoline market . . . but not without a strategy. **Page 44.**

A gasoline purchase is not one of the world's most complicated transactions, but as electronics, computers, banks and systems analysts get into the act, it can sound like it is. **Page 48.**

NPN

NATIONAL PETROLEUM NEWS JULY 1983

Are Refiners Jockeying in Octane Race? If So, Competition Was the Starting Gun

Although averages tend to diffuse rather than define what's going on, there's no question that the octane number of top quality unleaded gasoline is edging upwards in response to competition and consumer pressures.

This becomes obvious in a close study of the latest octane report issued by the Bartlesville (Okla.) Energy Technology Center, a unit of the government's Department of Energy. The current report covers octanes as they were in the summer of 1982.

For unleaded gasolines with an octane number of 90.0 and above, the report prosaically lists the average as 91.7—just as it was in the winter of 1981-82.

The district-by-district reports, however, show that at least seven of the 17 districts came up with samples of unleaded gasolines ranging from 93.2 to 93.9 octane. Eight others had samples of 92.0 to 92.9.

There was even one isolated sample of 100 research octane. That's a kind of a number that hasn't been around since the glory days of the 1960s when octane numbers were used to promote gasoline sales.

The government and the industry currently add the research plus motor methods and divide by two to get the octane number that is posted on station pumps. That formula is accepted as the industry yardstick. In the old days, the industry used the research number in its advertisements because it was much higher and sounded better quality-wise. In the '60s, 100-octane gasolines were commonplace in the marketplace.

The research and motor methods are both standard ASTM (American Society for Testing and Materials) procedures. The research method is primarily laboratory, while the motor method, in simple terms, is the shop approach. They're usually about eight to 10 points apart, with the motor method being the lowest of the two.

In the early '70s, when the government overwhelmed the industry with regulations, one new rule mandated that suppliers add the research and motor numbers together, then divide the total by two to find a common denominator.

Naturally, that blew a hole in the octane race/gasoline promotion because the numbers dropped into the upper 80s and lower 90s. When unleaded grades came onto the scene in 1975, they added another factor, as well as thoroughly confusing motorists who had related high-octane numbers automatically to high-quality gasoline.

As premium leaded was phased out, the government and industry began separating the leaded and unleaded gasolines into two categories: above 90.0 and below 90.0 for the unleaded, and above 93.0 and below 93.0 for the leaded grades.

The government's first split report embraced the winter of 1979-80. Unleaded above 90 came in with a surprising 92.1 at that time. But this might be considered somewhat fluky because the number of samples was on the low side (only 117). Not only that, more than half were in the eastern seaboard areas where octanes are traditionally higher, while no samples at all were taken in the Rocky Mountains and the Far West—which would have balanced the report and probably brought that 92.1 down to 91.6 or so.

What all this means is that if stiffening competition should trigger some kind of octane race, the current numbers are about where the starting line will be. And don't forget, these are the numbers for the summer of 1982, not 1983.

Sun recently announced that it had begun to market 93.5 octane unleaded in the Cleveland, Ohio, area, describing this as the highest-octane gasoline available from any major oil company in that marketplace [NPN—May '83, p11].

Many of the oil companies are now marketing 93.0-and-up gasoline, and if Sun's program begins to cut into the gallonage of others, it's as sure as Monday coming after Sunday that they'll jump right in to protect themselves and their volumes. One marketing source said that

Unleaded Octanes: A Bird's Eye View of '82

(The data below are for unleaded gasolines with an octane number of 90.0 and above)

District	No. of Brands	No. of Samples	Research ASTM	Motor ASTM	R+M ÷2
Northeast (Maine, Mass., N.H., Vt. & northern N.Y.)					
District averages	6	6	96.9	86.6	91.8
Highest samples			99.3	87.7	93.3 (a)
Lowest samples			96.0	85.1	90.6 (a)
Mid-Atlantic Coast (R.I., Conn., N.J., Del., Md., Va., central and southern N.Y. & eastern Pa.)					
District averages	12	42	96.9	86.7	91.8
Highest samples			100.0	89.0	93.9 (a)
Lowest samples			94.8	85.0	90.7 (a)
Southeast (N.C., S.C., Ga., Fla., Ala. & eastern Tenn.)					
District averages	7	24	96.8	86.7	91.8
Highest samples			99.0	88.1	93.5 (a)
Lowest samples			95.3	84.6	90.6 (a)
Appalachian (Ohio, W.Va., western N.Y., western Pa., eastern Ky. & part of Mo.)					
District averages	9	41	96.0	86.3	91.2
Highest samples			99.3	87.8	93.4 (a)
Lowest samples			94.9	85.2	90.3 (a)
Michigan					
District averages	7	7	96.2	86.8	91.6
Highest samples			98.3	87.9	92.8 (a)
Lowest samples			95.1	85.8	90.9 (a)
North Illinois (northern Ind., northern Ill., eastern Iowa & Wis.)					
District averages	5	7	96.7	87.3	92.0
Highest samples			99.4	98.0	93.2
Lowest samples			94.8	86.6	91.4
Central Mississippi (western Ky., southern Ind., southern Ill. & eastern Mo.)					
District averages	8	20	96.4	87.3	91.8
Highest samples			97.9	88.1	92.7 (a)
Lowest samples			95.0	86.4	91.1 (a)
Lower Mississippi (Miss., La., eastern and southern Ark. & western Tenn.)					
District averages	5	10	97.3	86.7	92.1
Highest samples			99.3	87.5	93.4 (a)
Lowest samples			94.8	85.1	91.0 (a)

(continued on next page)

(continued from previous page)

District	No. of Brands	No. of Samples	Research ASTM	Motor ASTM	R+M ÷2
North Plains (Minn., N.D., & S.D.					
District averages	1	1	97.5	87.4	92.5
Highest samples			97.5	87.4	92.5
Lowest samples			97.5	87.4	92.5
Central Plains (Neb., central & western Iowa, northwest Mo. & northern Kan.)					
District averages	1	1	98.6	86.8	92.7
Highest samples			98.6	86.8	92.7 (a)
Lowest samples			98.6	86.8	92.7 (a)
South Plains (southern Kan., southwestern Mo., western Ark., Okla. & northern Texas)					
District averages	4	6	96.4	86.3	91.4
Highest samples			97.6	87.5	92.5 (a)
Lowest samples			95.7	85.2	90.5 (a)
South Texas					
District averages	6	11	97.0	86.5	91.7
Highest samples			99.7	87.5	93.3 (a)
Lowest samples			95.6	85.4	91.5 (a)
South Mountain States (southwestern Kan., Okla., & Texas Panhandles, West Texas, N.M., Colo., Utah, Ariz., Nev. & eastern Calif.)					
District averages	4	8	96.7	86.1	91.4
Highest samples			97.3	86.5	91.9 (a)
Lowest samples			96.3	85.4	91.2 (a)
North Mountain States (Wyo., Mont., Idaho, eastern Wash. & eastern Ore.)					
District averages	2	2	95.8	86.2	91.0
Highest samples			96.2	86.2	91.2 (a)
Lowest samples			95.3	86.1	90.7 (a)
Pacific Northwest (western Wash. & western Ore.)					
District averages	6	8	96.3	86.7	91.5
Highest samples			97.6	88.4	92.0 (a)
Lowest samples			95.4	85.8	90.7 (a)
North California					
District averages	3	3	97.0	86.1	91.6
Highest samples			97.3	86.6	92.0 (a)
Lowest samples			96.6	85.7	91.2 (a)
South California					
District averages	5	8	96.7	86.5	91.6
Highest samples			97.5	87.3	92.1 (a)
Lowest samples			95.6	85.7	91.2 (a)
NATIONAL AVERAGES					
Summer 1982	—	205	96.8	86.6	91.7
Winter '81-'82	—	222	96.6	86.8	91.7
Summer 1981	—	163	96.3	82.2	91.3

(a) These are individual samples in each category. Thus, on these lines R + M ÷ 2 will not correspond authomatically to the totals of the research and motor methods divided by two in the normal fashion.

Source: Bartlesville (Okla.) Energy Technology Center, Department of Energy, Motor Gasolines, Summer 1982, April 1983.

Sun is probably throwing a lot better than 93.5 octane gasoline into the market; perhaps 93.7, or 93.8 or 93.9, so that at no point will its pump number fall below the advertised rating.

The government currently is evaluating the samples of gasoline taken in the winter of 1982-83. Results won't be available for another month or so, but they'll be interesting to review.

The gasoline samples are collected from service stations throughout the country and are analyzed in the laboratories of refiners, motor manufacturers and chemical companies. The analytical data are sent to Bartlesville for compilation under a cooperative agreement with the American Petroleum Institute.

All of the data are coded so that the identities of the oil companies and the samples are concealed. The 1982 samples came from 22 oil companies large and small.

The latest report is broken down into the four key categories for unleaded and leaded grades. There hasn't been much change or movement in the octane numbers in the unleaded gasolines below 90. The same holds true for leaded regular below 93.0 octane. Sampling of leaded regulars above 93 octane really hasn't gotten off the ground yet. The first year (winter, 1980-81) showed an industry average of 93.3. The winter of 1981-82 showed an average of 93.0, but that was based on only one sample. No samples were taken in the summers of 1981 or 1982.

For copies of the full octane report for summer 1982, contact the National Technical Information Service in Washington.

—J. Richard Shaner

Jobbers Adjust to Mobil's Midwest Pullout

Although many jobbers were surprised in mid-May when Mobil Oil Company announced it would withdraw from several Midwest states, many of the estimated 300 affected distributors apparently aren't having problems finding new suppliers.

The move affects a total of 720 branded outlets, 85 of which are owned or leased by Mobil. The pullout will eliminate 60 to 70 salaried positions at service stations and 400 other company jobs. Mobil says these employees will be offered other jobs within the company.

"Jobbers here are in a state of shock. The pullout hit rather suddenly," says George Watters, of the Nebraska Petroleum Marketers Assn. But he and other association executives hasten to add that many suppliers seem interested in picking up new business. Several suppliers even contacted association offices for lists of affected distributors.

On May 19, Mobil announced it would close its 66-year-old Augusta, Kan., refinery within a year. The company also will gradually withdraw from marketing gasoline and distillates in Kansas, Nebraska and South Dakota and parts of Iowa, Missouri and North Dakota. Mobil, however, will continue marketing lube oil and aviation fuel in those areas.

Within that year, the company also will phase out operations at its terminals in Topeka and Kansas City, Kan.; Omaha, Neb.; Sioux Falls, S.D.; and Sioux City, Iowa, as well as related pipeline facilities.

The federal Petroleum Marketing Practices Act requires only six months advance notice of a pullout, and several association execs praised Mobil for the way it has handled the withdrawal. The execs generally say a year should provide enough time to find suppliers.

The company has pledged to help jobbers find new suppliers and says franchisees will have the first option to buy the outlets it vacates.

Mobil says the withdrawal reflects excess refining capacity and declining demand. The company also says the Augusta refinery has not been competitive because it cannot process high-sulfur crude. The refinery has been operating at about 50% of its 50,000 b/d capacity and is the smallest refinery in Mobil's system.

States Affected by Mobil Pullout*

	Gasoline Market share Before	After
Iowa	4.8%	4.3%
Kansas	5.6%	0%
Missouri	4.0%	3.3%
Nebraska	7.1%	0%
North Dakota	10.3%	2.7%
South Dakota	12.3%	0%

***Partial withdrawals are planned in western Iowa, northwestern Missouri and west central North Dakota.**

August 1983 $4.00

Jobber Turns Tires into C-Store Items

Indie Refiners, Marketers Reeling

Can You Afford Your Transport Fleet?

NPN

National Petroleum News

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Alcohol Fuels Boom: Industry's New Time Bomb?

NATIONAL PETROLEUM NEWS

AUGUST 1983
VOL. 75 NO. 8

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Shell Oil takes another crack at Baltimore Canyon exploration

21 **West Coast**
Union study says marketers pursue highly diverse consumers today

22 **Midwest**
Illinois taxes are doomsday package for border-area jobbers

24 **South**
Sun Belt marketers label '83 another disappointing year

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Utah's flood of methanol tax credits is hurting state revenue

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28 McGinley staying active after sudden retirement
28 Supreme Court's unitary tax ruling might cause pullouts
29 'Gas-only' Hess expands its C-store entree
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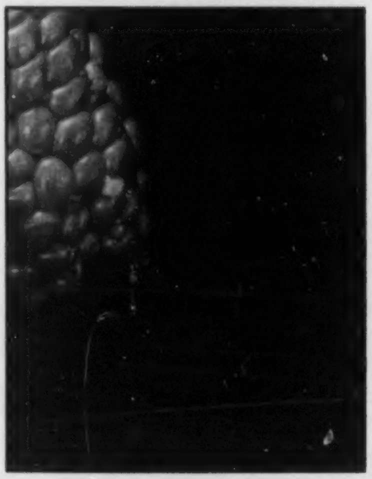
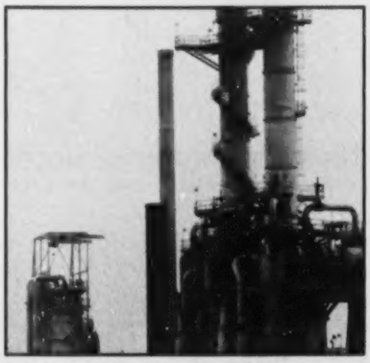


The oil industry has a potentially explosive situation on its hands with the fast-growing trend of lacing gasoline with ethanol and methanol, and prolonged pump price wars seem to be fanning the fuse. **Page 36**

Cover photograph by John Apolinski.



The sudden 'for sale' sign posted early last month by Asamera has served as a poignant indication to independent refiners and marketers alike that wrenching attrition among their ranks is not over yet. **Page 27**

Rising operating costs, coupled with sinking product demand in recent years, have prompted many jobbers to reevaluate whether they can afford a truck fleet these days. **Page 46**

• TRENDS

Automated Fueling Poised To Boom as Self-Serve Did

Automated credit card and debit card gasoline marketing appears to be on the verge of rapid development. Some market observers even see the trend sweeping over gasoline retailing the way self-service did in the 1970s.

What this entails essentially is the use of a magnetically coded card inserted into an acceptor to activate the dispenser and pay for the purchase. That's it.

In concept, this is old hat, of course. It's superficially like the old cardlock systems of the 1960s. But what's different now is that the new generation of automated card systems will be part of vast communication networks working in concert with banks and other retail giants.

The banks are the key to how fast and pervasively the trend will develop. They are also the reason that although the concept has been around for a long time, the actualization has been relatively slow in coming.

The communication networks needed to support automated card systems are prodigious. For some time, individual banks entertained the idea of stealing the march on other banks by building networks of their own. The prize was (and is) billions and billions of dollars of deposits based on gasoline purchases. For banks, deposits are practically equivalent to profits.

The coming of automated teller machines (ATMs) a few years ago hastened the development of communication networks needed to handle bank transactions electronically—not just at the branch bank of the individual checking account, but at any and all banks in the system.

The cost of ATM equipment, while considerable, pales alongside the cost of establishing and maintaining a communication system eternally on-line to accomplish the electronic debiting and crediting. This is called "telecommunications," and it is the nerve network of any automated card system.

Once banks decided that development could be speeded up by getting together with other banks, the logjam was broken. Partnership brings about a breakthrough in telecommunication costs.

Large ATM networks like MPACT in Texas have begun to spring up. Five California banks have gotten together in the hope of forming a debit card network, and they understandably are seeking participation of major oil companies to make the systems fly from the beginning.

Some oil companies individually—for example, Shell and Chevron—are working feverishly to set up networks of their own in conjunction with a bank or national retailer.

On the horizon, it is not inconceivable that all of this will be tied together in one immense system.

Automated credit card purchases will dominate for a time, but likely will give way to debit card purchases. This is simply the elimination of paper check writing; money is transferred from buyer to seller electronically.

This may sound remote to an everyday gasoline marketer, but it isn't. The whole system relies on a point-of-sale terminal tied into the system. As a practical matter, it means each station will need a computer of its own.

This will most likely not be a computer that a retailer or jobber himself must "program" (perish the thought), although some "user-friendly" systems might allow for that. It is a machine that will perform the necessary functions without its user necessarily knowing *how* it is happening.

A computer is an electronic processor that allows system modification without requiring new hardware. With a computer built into point-of-sale terminal equipment, changes can be made by altering programs.

A number of equipment suppliers are known to be getting ready for the revolution. One is GA Technologies, La Jolla, Calif. It has just set up a new subsidiary, Electronic Marketing Systems (EMS), expressly for developing a computerized system that can be upgraded with the times.

"We want to do things in software (programs) that people have had to do heretofore with hardware," says Mike Juha, EMS sales and marketing manager. "Our belief is that any product from this day forward has got to be designed so that if a customer wants to reach out into an automated teller network, the system has the flexibility to communicate with it."

GA Technologies, formerly General Atomic, was an early entrant in self-serve automation equipment in 1974. It has installed more than 10,000 systems in the intervening years, during which time self-serve took over two-thirds to three-quarters of the gasoline market.

Says Juha, "We think that in another eight or nine years, credit card and debit card access equipment will have the same share of the market self-serve does now. We're predicating our new product plans on that."

—Mark Emond

• MARKETPLACE AT A GLANCE

AVERAGE GASOLINE PRICES IN THE U.S. (¢ per gal.)

MAY	Gasoline (All types)	Leaded Regular	Unleaded Regular	Leaded Premium
U.S. City Avg.	$1.243	$1.177	$1.259	$1.376
Regions:				
Northeast	1.251	1.186	1.255	NA
North Central	1.263	1.217	1.282	NA
South	1.223	1.154	1.239	NA
West	1.237	1.153	1.260	1.379

Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

STOCKS (Add 000 bbl.)

	7/1/83	7/2/82
Gasoline (total)	224,055	219,078
Gasoline (unleaded*)	88,749	88,279
Kerosine **	35,665	34,242
Distillates	114,266	125,754
Residual	47,117	58,863

**Included in gasoline total.*

***Jet kero only; totals no longer kept by API and DOE.*

Source: American Petroleum Institute.

Pittston Gives Up 10-Year Fight for Maine Refinery

The Pittston Co., which tried for 10 long years to get permission to build a 250,000 b/d refinery in Eastport, Maine, has finally given up—beaten down more by hard economics than by persistent environmentalists [NPN—May '83, p27].

In April 1973, when Pittston bravely announced it would like to give the Northeast its first major oil refinery, it estimated the plant would cost about $300-million and could be onstream within 30 months of government and environmental agency approvals.

Throwing in the towel in mid-June, Pittston says the refinery would now cost more than $1-billion. Not only is it just about back to square one in getting approvals to proceed, but the big picture itself has changed. Refineries are a drug on the market and more than 2-million b/d of capacity have been mothballed or dismantled in the last two years alone [NPN—May '83, p32].

Pittston spent more than $5-million in its years-long quest for the array of approvals that are necessary on local, regional, state and federal levels. It was bushwacked at every turn by environmentalists who trotted out bald eagle nesting grounds and humpbacked whales as possible victims of a refinery that would have given the Northeast its first sense of security in product availability.

The demise of the Eastport project just about wrote "finis" to the New England area's hopes of ever having refining and crude storage facilities "at home."

Some environmentalists will declare victory in killing not only this refinery but also the one that had been scheduled to be built in Portsmouth, Va., harbor, which also went down the drain because of delays and escalating costs that made continuation prohibitive.

PMEF Sets Annual Leadership Program

The Petroleum Marketing Education Foundation is offering its annual "Executive Leadership Program for Oil Marketers" at the University of Houston Sept. 11-16.

The program, oriented primarily toward jobbers, will include such topics as "Interpersonal and Organizational Communication," "Financial Statement Analysis," "Tax Strategies," "Performance Planning and Evaluation," and "A Manager's Perspective on Marketing."

Tuition is $710. Registration information can be obtained by writing to PMEF, 1215 Lady St., P.O. Box 11187, Columbia, S.C. 29211. Telephone (803) 252-5546.

Station Repair Billing Up, If Mechanics on Commission

For jobbers whose stations do repair work, are sales affected by the form of mechanic compensation?

Indeed, yes, according to findings from a recent survey of nearly 500 service stations, repair shops and car dealers across the country. What's more, hourly labor charges for service station mechanics have increased nearly three-fold since 1975, while mechanic hourly wages during that time have not even doubled. That leaves one to believe that other escalating operating costs have had to be covered by higher billing for labor during the last eight years.

These and other observations are the result of a survey by Hunter Publishing, publisher of *NPN* and *Service Station Management*, from which these conclusions are drawn. The results of the survey conducted in May also contain exclusive data on the impact of NIASE (National Institute for Automotive Service Excellence) certification on mechanic earnings. Other highlights include:

- In 1983, the average full-time experienced service station mechanic earns approximately $17,600 per year. A full-time beginner mechanic earns about $12,200

Mechanic Salaries and Benefits:

	Full-time/experienced	Full-time/beginner
Average annual earnings	$17,600	$12,200
$30,000 or more per year	2.2%	.6%
$25,000 to $29,999	7.2	—
$20,000 to $24,999	18.3	1.1
$15,000 to $19,999	37.3	10.2
$10,000 to $14,999	31.8	48.4
under $10,000	3.2	39.7

Fringe benefits offered:	Company pays cost All	Some	None
Life insurance	19.8%	10.6%	69.6%
Minor medical insurance	23.2	11.9	64.9
Major medical insurance	29.3	14.8	55.9
Disability insurance	31.1	6.6	62.3
Dental insurance	2.6	1.3	96.1
Pension plan	5.8	3.8	90.4
Profit sharing	4.5	2.6	92.9
Bonus	40.8	8.3	50.9
Paid vacation	81.4	5.2	13.4
Training (clinics-schools)	58.2	12.9	28.9
Work uniforms	65.9	16.2	17.9
Hand tools:			
Mechanic provides his own			49.5%
Station provides			51.3
Share costs or split for special purposes			9.8

Characteristics of Mechanics' Employers:

Average hourly labor charge	$21.35
Number of full-time mechanics (average)	2.5
NIASE certified mechanics	
all are certified	12.7%
some are certified	32.4%
none are certified	54.9%
Union shop	
yes	1.7%
no	98.3%
Method of compensation	
hourly wage	45.2%
salary	27.9
flat rate	2.0
commission or piece work	4.9
percent of labor rate	3.7
salary plus commission	12.6
hourly wage plus commission	11.8
Average number of hours per week for full-time mechanics	44.8

every year, excluding benefits.

- Generally, mechanic pay is on the upswing, but it has not kept up with the national rate of inflation over the past eight years.
- Those stations which employ mechanics certified by NIASE pay significantly higher salaries, on average, to their mechanic employees than those which do not have certified mechanics.
- Mechanics who work on some form of commission or percentage of the labor rate basis generally earn substantially more than those working on straight salary or an hourly wage basis.

There is also strong evidence that compensation programs which include incentive pay such as commissions have a measurable, positive effect on station repair and service dollar volume.

Among *SSM's* respondents, those station operators who paid straight commissions employed an average 2.6 mechanics per station, only slightly above the 2.5 national average. Yet their annual dollar volume was $209,000 for repair and service work, for an average of $80,000 per mechanic.

Compare this with the average dollar volume of stations paying straight salary (2.4 mechanics per station). The straight-commission stations average almost $60,000 more per year in service dollar volume and nearly $20,000 more in revenues per mechanic—one third more.

A few other conclusions from the survey tend to cast station operators as not the most benevolent group of employers. *SSM* reports:

- Average earnings for service station mechanics still lag behind those of repair shop ($18,200) and dealership ($19,500) mechanics, but the gap is narrowing. Part of this difference is attributable to the fact that station mechanics frequently have duties (pump island, etc.) which are less renumerative.
- A little over half of the stations reporting provide their mechanics with hand tools.
- So far, unionization is not a factor among service station mechanics. Less than 2% are unionized.
- Service station mechanics put in longer hours on average than mechanics in other segments of the aftermarket—a total of almost 45 hours per week. This may also reflect the longer hours of operation in the typical service station.
- In 1975, 70% of the stations offered their mechanics some form of bonus program. That number shrank to 49.1% by 1983, a decline of 30%. In fact, benefits in every category—pensions, insurance, profit sharing, etc.—have declined since 1975, except for paid vacations, which remains the most common fringe benefit (87% of stations providing).

—Donald M. Smith

How Compensation Method Affects Sales:

	Station repair volume	Mechanic repair volume
Hourly wage (2.4 aver. mechanics per station)	$170,000	$71,000
Salary (2.4)	151,000	61,000
Commission or piece work (2.6)	209,000	80,000
Percent of labor rate (2.7)	193,000	72,000
Salary plus commission (2.3)	163,000	71,000
Hourly wage plus commission (2.8)	193,000	69,000

Certification Pays Off for Mechanics . . .

	Average annual earnings (experienced mechanics)
Stations with all NIASE certified mechanics	$19,500
Stations with some certified mechanics	19,100
Stations with no certified mechanics	16,100
Average income, stations with all or some certified mechanics	19,300

What Commission Mechanics Earn:

Hourly wage	$16,600
Salary	17,200
Commission or piece work	21,600
% of labor	18,700
Salary plus commission	18,700
Hourly wage plus commission	17,500

Source: Hunter Publishing Company

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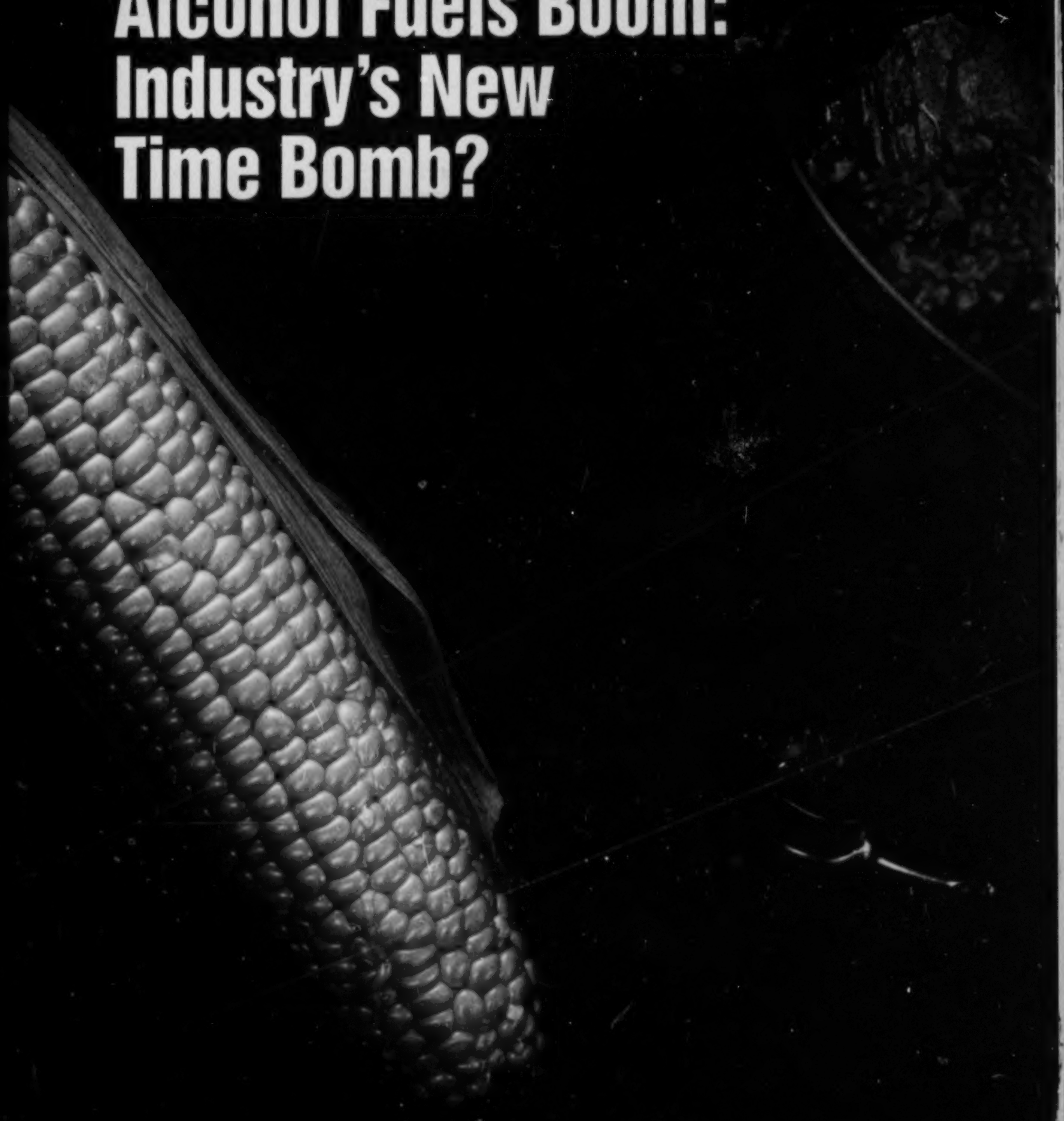
Alcohol Fuels Boom: Industry's New Time Bomb?



By Marvin Reid
and Staff

The oil industry might have a ticking time bomb situation on its hands with the fast-growing trend of lacing gasoline with ethyl alcohol (ethanol) or methyl alcohol (methanol).

Prolonged retail price wars and low margins are forcing an increasing number of marketers to mix the alcohols in their motor fuels as a potential cost-cutting measure.

A few might be exceeding recommended mixtures, according to rarely verified rumors, which could cause equipment damage and product-quality image problems. And, some of this methanol-laced fuel even violates federal standards.

Total sales of ethanol-enhanced motor fuel could approach 4-billion gal. this year, more than quadrupling 1981 sales of about 829-million gal., estimates Frederick L. Potter, a Washington, D.C., consultant. [See page 38 for Potter's analysis of today's market.]

Most of the alcohol blend activity has been in ethanol, which has a fairly good track record for proper blending from its "gasohol" days of the 1970s. But methanol-laced gasoline sales are on the increase, too, and this has some industry and government sources concerned. Experts recommend much greater care be taken with methanol as compared to ethanol blends. [See story page 41.]

There is, however, a huge surplus of methanol currently, and it is dirt cheap compared to ethanol. Marketers increasingly are turning to it, especially, as some states move to reduce or wipe out tax exemptions on ethanol.

"The greed to survive is causing some marketers to do things they might not ordinarily do," says a large independent of the trend to methanol and rumors that some jobbers might be selling lopsided blends.

Some horror stories are being passed around the industry of instances where excessive amounts of both ethanol and methanol have caused problems.

It's Purely Economics

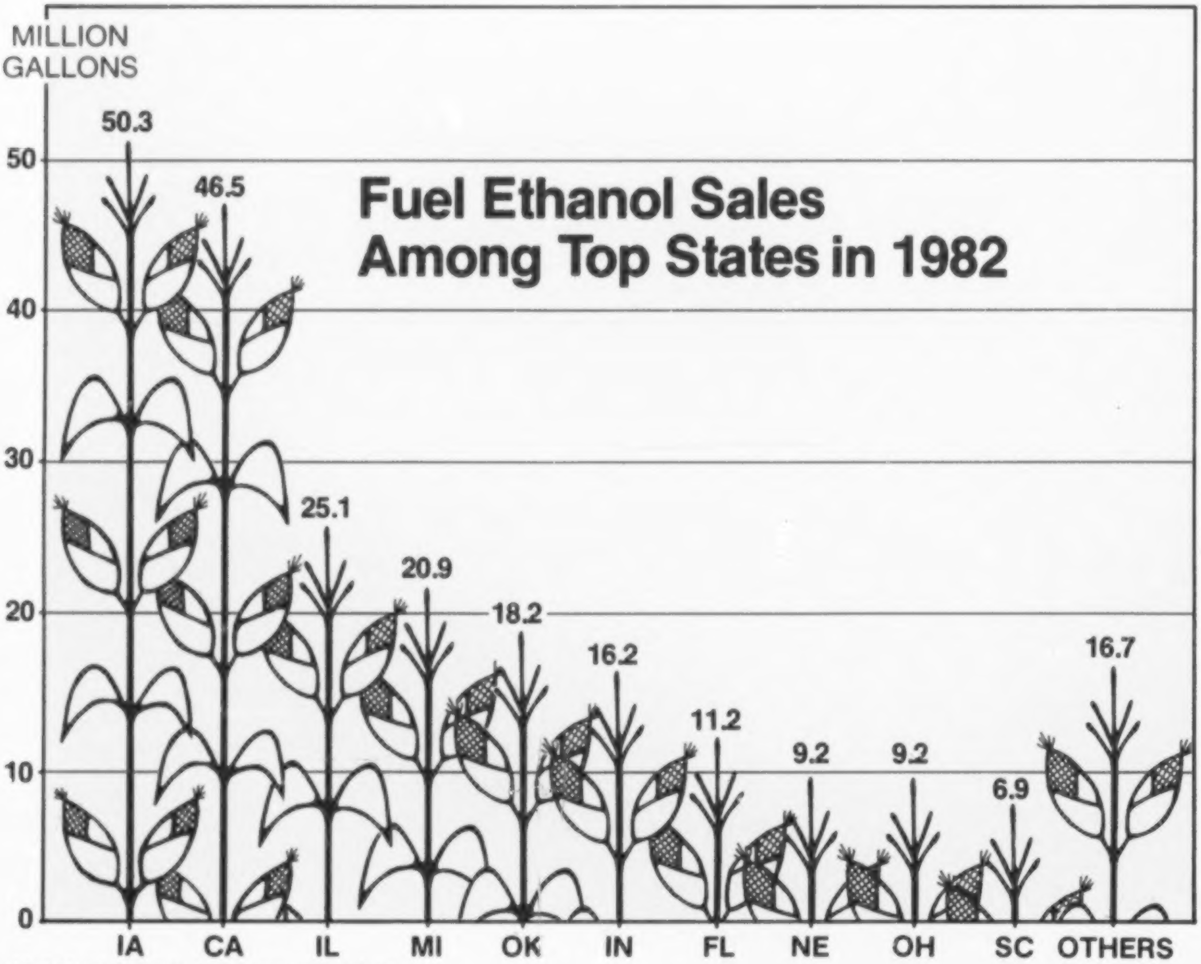
Marketers have been turning to either ethanol or methanol blends in recent months in hopes of possibly shaving their net fuel costs. Even a 1¢ or 2¢ gal. savings, some say, can mean the difference between surviving and not surviving the industry's prolonged price wars.

Many have learned they can use ethanol blends as an "octane booster." By adding 10% ethanol to 90% unleaded regular, they wind up with a "premium" unleaded. With excise tax subsidies, the net cost of such ethanol-laced fuel is often cheaper than ordinary "premium" unleaded. [See page 38.]

Methanol also can be used as an octane booster, and for a much cheaper price than ethanol.

Jobbers generally report paying about $1.70 gal. currently for ethanol, compared to 50¢ gal. for methanol. Although methanol isn't exempt from taxes in most states, its low price almost offsets the best tax breaks on ethanol.

Earlier this year, three states gave excise tax breaks to methanol blends: Ohio, Iowa, Utah and Washington. By mid-July, Utah legislators had passed a bill to tax natural gas-derived methanol, and Washington gutted its methanol blend tax break entirely effective last month. And, in early July, Ohio legislators voted to drop the tax credit in that state.



Fuel Ethanol Sales Among Top States in 1982

SOURCE: INFORMATION RESOURCES INCORPORATED

But the bottom line is marketers can obtain a 2¢ to 4¢ edge by using accepted blends of ethanol or methanol.

Horror Stories

While jobbers are tempted to take advantage of whatever cost savings they might achieve with either ethanol or methanol blends, experts urge caution.

Several months back, according to rumors, a handful of jobbers in a Southwest state purchased what they presumed to be plain, ordinary gasoline from a large terminal operator.

They mixed 10% ethanol with it and went to the market with what they thought was 90% gasoline/10% ethanol.

But the terminal operator, some sources speculate, had earlier "upgraded" the gasoline by using either straight methanol or tertiary butyl alcohol (TBA) or "something similar." Whatever he used, these sources believe, the gasoline contained 10% alcohol when it left the terminal.

The jobbers, by adding 10% ethanol, actually wound up with 80% gasoline, 20% alcohol.

They also wound up with many, many problems. In addition to damaging their own equipment, motorists filed complaints, and there were investigations. Some of the jobbers were reported to have suffered individual losses of $300,000 to $400,000.

The jobbers reportedly bought the gasoline from a St. Louis terminal operator who gained a great deal of unwanted publicity in that city. [See page 40.]

In Utah, where a 5¢ gal. state tax exemption exists for methanol gasoline blends (although under legislative scrutiny last month), both sales and customer complaints have been soaring in recent months. One Utah jobber quit selling such fuel after his own car stalled.

A Tennessee jobber, who says he isn't "in alcohol," has found it necessary, nevertheless, to regularly pull gasoline samples from his station storage tanks and have them "verified."

"Some customers buy that junk else-

Blends Buck Trend of Dipping Demand

By Frederick L. Potter

Despite sluggish motor fuel demand over the past two years, the production and use of alcohol fuels have skyrocketed to comprise more than 5% of the U.S. gasoline market and as much as 10% in some states.

In fact, demand for fuel-grade ethanol presently exceeds production capacity of all major producers. Such pressure is leading to expansion of ethanol capacity from 660-million gal. this year to an estimated 700-million next year and possibly reaching 1-billion gal. by 1986. At that rate, more than 10% of all gasoline sold in the U.S. could contain ethanol by 1986, if blending facilities operate at or near capacity as they do currently.

That prognosis comes on the heels of a five-fold increase in ethanol-enhanced motor fuel consumption since the so-called "gasohol era" (1978-80) when fuel-grade ethanol was backed staunchly by the government. The "gasohol—America's home-grown fuel" hoopla of the Carter administration and Congress yielded 4¢ gal. federal excise tax breaks and $8.5-million-plus subsidies for alcohol production.

But a one-stroke solution to grain surpluses and OPEC's vise-grip had its own problem: motorists were reluctant to buy what they perceived to be an inferior fuel.

Since that time, marketers have seen to it that the "gasohol" tag has fallen out of vogue and have replaced it with "super unleaded" or "ethanol-enhanced" labels at the pumps. Jobbers who are involved with alcohol fuels are promoting successfully the octane enhancement characteristics. Fuel-grade ethanol has a 118 octane rating (R + M/2 or "research plus motor methods over two), compared to regular unleaded octane ratings from 91 to 93.

In general, sales of ethanol blends run highest in states where premium gasoline sales levels fall well below the 10.8% national average. And, seven of the top 10 states in ethanol blend sales have experienced lower than the national average of premium sales—the idea being that ethanol blends are displacing premium sales in at least some of those states.

During the infancy years of "gasohol," ethanol distribution was relegated to small quantities on a sporadic basis to scattered minor marketers. Today, the channels of distribution are more sophisticated and efficient, to the point where pipeline transportation is considered commercially viable. In addition, the "mom and pop"

How Ethanol "Super Unleaded" Compares to Premium Unleaded

	Making "Super Unleaded" with ethanol	Premium Gasoline (without ethanol)
Wholesale unleaded gasoline cost*	(87 octane) (90¢ x .45) = 40.5 (91 octane) (94¢ x .45) = 42.3 82.8¢	(91 octane) (94 x 1.0) = 94.0¢
Ethanol	(118 octane) ($1.70 x .1) = 17.0 99.8¢	
Iowa state tax (for example) *(with* 5¢ exemption)	8.0 107.8¢	13.0 107.0¢
Federal tax *(with* 5¢ exemption)	4.0 111.8¢ (92 octane)	9.0 116.0¢ (91 octane)

Source: Information Resources, Inc., Washington, D.C.

***Figures based on legal blended limit of 90% unleaded gasoline (.45 + .45) and 10% ethanol (.1) by content.**

Nation's Leading Fuel Ethanol Producers

Company	Location	Capacity (million gal./yr.)
Archer Daniels Midland (ADM)	Decatur, Ill.	120
	Cedar Rapids, Iowa	60
	Peoria, Ill.	60
Pekin Energy	Pekin, Ill.	60
South Point Ethanol	South Point, Ohio	60
A.E. Staley	Loudon, Tenn.	40
Kentucky Ag. Energy	Franklin, Ky.	21

Source: Information Resources, Inc., Washington, D.C.

Potter is president of Information Resources, Inc., a Washington, D.C.-based consultancy which focuses on alcohol fuels and other energy industries.

where, and they don't have trouble for two or three tank fulls," says this jobber. "Then, when trouble develops, they go to a mechanic and the mechanic says they've got bad 'gas' with water in it. We just want to prove to these customers they aren't buying it from us."

Ohio and Michigan may be leading the nation at present in both methanol blended gasoline sales and Environmental Protection Agency investigations. [See stories on page 40.]

Roger Smith, editor of *Alcohol Week*, has estimated that methanol sales in Ohio may range as high as 20-million gal. annually, or up to one-third the total U.S. methanol motor fuel market. EPA has been conducting probes of possible violations in Detroit and throughout Ohio.

At times, reports indicate, a marketer may start off with only recommended methanol blends but then, exceed them in a desperate effort to survive today's competition. This happened to an independent marketer in California, sources there report. The indie, as a last resort, was "dumping methanol directly in his storage tanks" shortly before he "bellied-up," sources there claim.

Not All Bad Nor Crooked

While there have been rumors of independents and jobbers in certain areas attempting to blend as much as 10% or 20% methanol in motor fuel, most industry sources doubt many are attempting such heavy concentrations.

At least, these sources add, no marketer will try to blend in that much for very long.

"You put that much methanol in gasoline and you'll have problems you never dreamed of," says a major company executive who once headed up an alternate fuels study program. "It would eat the lining out of your storage tanks, cause water separation, cause swelling of your elastomers, and your vapor pressure would go all to hell." [See story page 41.]

Most authorities agree that equal amounts of corrosion inhibitors need to be added with methanol blended into gasoline. Otherwise, equipment and cars can be damaged.

Atlantic Richfield and Sun Co., among the majors, have approval from EPA to market a blend that contains about 4.8% methanol and 4.8% cosolvent. Petrocoal, controlled by Ocelot, a Canadian methanol manufacturer, is permitted a blend that employs up to 12% methanol and 6% cosolvent in the U.S.

Du Pont recently was denied an EPA waiver to use 3% methanol without any cosolvent.

Some oil company people think EPA's limits on methanol blends are too strict insofar as corrosion problems are concerned. They point out almost all major and independent brands of gasoline contain corrosion inhibitors, although they agree more cosolvents should be added for large amounts of methanol blends.

Ed Guetens, business manager for octane components at Atlantic Richfield Chemical, believes there is too much scare talk about botched methanol blends on the market. Lots of technology has been developed, he says, to enable the refiner and blender to use methanol properly.

Guetens says Arco Petroleum is currently marketing in the Northeast a methanol blend trademarked "Oxinol" in its gasoline at savings of up to 2¢ gal.

Such cost-cutting potential, of course, is the prime reason jobbers and others have been rushing to get into methanol.

Southland Is Testing

Some large independent chain retailers are now test-marketing methanol blended gasoline, and others say they may be forced to begin doing so "for defensive reasons."

The Southland Corp. has confirmed test-marketing Arco's "Oxinol" blend in Houston with what a company official describes as "good results." There have been rumors of Southland testing methanol in other markets in the Southeast and Rockies, but this company source indicates the large convenience store chain is proceeding cautiously.

"We think it shows much promise, but we've found methanol prices firming up recently," says the Southland source. "We aren't sure there will continue to be that much price advantage, and you have to be very careful with the blends."

Truman Arnold of Arnold Distributing Co., Texarkana, Texas, is one large chain retailer who admits to having been burned by product laced with methanol without his knowledge by a small blending plant. While he did get into ethanol blends in the 1970s, Arnold remains apprehensive about methanol, saying he has heard of as much as a 20% evaporation loss from some "methanol-plugged product."

"We believe there is some methanol product in one of our markets because it's selling at 2¢ to 3¢ under rack prices," adds Arnold. "But we aren't going to

Some Straight Advice on What Legal Blends Are . . .

Confusion abounds as to how much ethanol or methanol a marketer should allow in his gasoline. Here is the straight dope:

Under Section 211 of the Clean Air Act, the Environmental Protection Agency has limited the amount of "pure" methanol added to unleaded gasoline to 0.3% by volume. (No such EPA limits exist for leaded gasoline.)

Neither are there regulatory limits on ethanol mixtures—contrary to popular belief.

Industry experts, however, say a 10% ethanol/90% unleaded gasoline mix is acceptable. They also recommend that not more than 0.4% methanol be mixed in motor fuel, unless cosolvents are added to inhibit water separation and corrosion.

If methanol is blended with another alcohol of equal or greater molecular weight, as much as 2.75% methanol can be used, says EPA. Thus, the total mix of alcohols can be as high as 5.5% by volume, without special permission or waivers being granted.

Arco Chemical and Sun Co. hold such a waiver for Arco's "Oxinol 50." This 50-50 blend of straight methanol and gasoline-grade tertiary butyl alcohol (GTBA) is comprised of nearly 9.6% alcohol.

stations with such blends have become overshadowed by the likes of Texaco, Chevron, Ashland, Cities Service and Amoco outlets.

Since those early years, ethanol makers have had a much easier time promoting their product to gasoline distributors. Both octane and marketers' profit margins are boosted with the use of the blended fuel. [See breakdown comparison in chart.]

It remains true, however, that federal and state tax incentives claim credit for much of the success of ethanol blends. More than 100 fuel ethanol plants have been built in the U.S. since the government instituted industry incentives in 1978. And, 33 states currently offer tax breaks—on top of the federal 5¢ gal. exemption—for use of ethanol blends, in some cases leading to a 4.2¢ gal. increase in marketers' profit margins.

Methanol Boom Simmers

Methanol blends, on the other hand, are regarded more as a fuel of the future. Last year, 60-million gal. in methanol sales compared to some 240-million gal. for ethanol. But methanol's potential contribution to the motor fuel market can be greater than ethanol's throughout North America.

Like ethanol, methanol offers high octane (120R + M/2) and can be used as an alternative to lead, which has been used by smaller-sized refiners and blenders.

What's more, as industrial methanol chemical markets have lagged in recent years, the North American methanol industry expects to have some 500-million gal. of excess production capacity by the end of the year available for the motor fuel market. This means an abundance of supply at prices as low as 50¢ gal. So, unlike ethanol, methanol is not dependent on tax breaks to compete in the marketplace.

Further, stringent lead-content mandates from the government and a continued surplus of grain will enhance the prospects for alternative octane enhancers. Meaning: the pressures that have lead to explosive growth in alcohol blends will continue to grow.

mess with it. You get some bad product in your system and it can really disrupt things."

Experienced ethanol-blended fuel sellers point out that automobiles don't have to be specially equipped or tuned to operate on the typical 10% ethanol/90% unleaded gasoline blends. This is not so with methanol blends this high.

One 'Beautiful Fuel'

But many automotive and oil industry experts agree that, for cars equipped and fine-tuned to operate on methanol blends, the alcohol becomes a "beautiful fuel."

"It has about one-half the BTUs (British thermal units) of gasoline, but you get far more efficient use from a gallon," says Charles Shuttleworth of Conoco, who participated in a joint test program between Conoco and the State of California two or three years ago.

Conoco has since dropped out of the California program and Redwood Oil Co., a Sacramento jobber, has replaced it. Kenneth D. Smith, manager of the California Energy Commission's synthetic fuels office, says he wants to have 18 "fueling points" in operation by August, supplying some 500 specially designed Ford escorts with a blend of 90% methanol/10% unleaded.

Redwood Oil is buying methanol for this project from Celanese Corp. at a "laid-in" price of 60¢ gal. It plans to have retail prices of 79.9¢ gal. including taxes.

Such testing could play a big role in methanol's potential future as a motor fuel. Some experts even believe that eventually, a "pure" (or "neat") methanol will replace gasoline as a motor fuel.

At the same time, however, a comprehensive study of methanol's motor fuel potential by the California Institute of Technology and the Jet Propulsion Lab reaches a much less enthusiastic conclusion. It says that the current trough in crude oil prices and a traditionally high cost of methanol production from natural gas or coal will stunt the growth in methanol blended fuel until at least 1990. Only then, the report states, will methanol begin to compete with ordinary gasoline as "America's motor fuel of the future."

But for the time being, methanol marketers aren't thinking about more production. They have a supply glut which some sources say couldn't be worked off in five years, even with a tremendous rush by gasoline marketers to buy methanol for present blending operations.

Most sources believe methanol supply and prices will remain just right for fast future growth of methanol blends. Many are genuinely concerned, however, that efforts by a few to blend too much methanol into gasoline could result in a major scandal that would definitely stunt the potential growth.

St. Louis Jobbers Learn Hard Way . . .

In St. Louis during the spring of 1982, Inland Oil's supply of cheap gasoline seemed like a gold mine, while the market's response to the product resembled a "gold rush."

Punch-drunk from stiff market competition, St. Louis marketers clamored to buy what later was determined to be a methanol blend from the Missouri-based terminal operator and multi-state jobber. Another large independent terminal operator now says Inland's wholesale prices at that time bested average St. Louis rack prices by 2¢ to 3¢ gal.

Other sources say Inland, today, is on its way out of business. Inland's attorney, however, labeled the idea "ridiculous."

A surfeit of stalled autos, a deluge of motorist complaints and a rash of publicity led to what has been called a "witch hunt." The Missouri attorney general sued Inland and its subsidiaries, Mars Oil and Marine Petroleum; Inland sued the attorney general; and a group of businesses filed a class action suit against Inland and "everyone who supplied them."

The attorney general created a hotline for motorists and promoted litmus paper tests for tail pipes. "It turned into a political football," says one St. Louis marketer. In all, state officials seek restitution for some 1,500 motorists in charging Inland with "misrepresenting an inferior fuel as gasoline" [NPN—June '83, p11].

For Inland's part, its attorney says the company has been victimized by inaccurate reports, saying the product Inland sold "could be considered gasoline, and was properly labeled."

Then, there's the legal and enforcement entanglements themselves. Both federal trade and environmental agencies had once considered taking legal action, but deferred to Missouri state authorities. State weights and measures officials, however, could only test product, not crack down effectively on marketers. And, 40-year-old state gasoline standards don't include fuel-grade alcohol specs—let alone levels such as Inland's 17% alcohol blend which officials discovered.

Local marketers, however, say stiff competition continues in St. Louis and anticipate more tainted gasoline.

"The refinery puts 4% in, and that makes his price cheaper," says a large indie marketer. "Then, he sells it to a distributor, who dumps 5% methanol into it and sells it to a service station operator, who *also* wants to get some mileage out of an alcohol blend."

"There's a tremendous amount of fuel being marketed off the (Missisippi) river, primarily blended with products that enable the sellers to underprice the normal market," says John Hahn of the Missouri Oil Jobbers Assn.

His group had been pushing a bill requiring gasoline to meet American Society for Testing & Materials standards, define alcohol blends, empower state officials to quash sales of illicit product, and require that retailers be notified about alcohol content in gasoline. (The governor signed the measure into law July 19.)

"We think if the bill is fully enforced, it will have a dramatic impact on market pricing," says Hahn.

. . . While Detroit Prepares *Its* Lesson

It's been said that Detroit motorists are so price conscious that if you filled service station tanks with water and sold it for 50¢ gal., motorists would sit in line to fill up.

"They don't even ask you what they're buying," says a long-time Amoco dealer regarding fuel that is conspicuously low-priced at the pump.

But while that city's petroleum marketers aren't masquerading as water peddlers, motorists there are ready, willing and, more importantly, *able* to buy tainted gasoline several pennies cheaper than the going price in what already had been a notoriously tough market.

"Absurdly low street prices and below-cost selling are driving the honest guys out of business," says Tom Cordell, executive director of the Michigan Petroleum Assn. (MPA).

"Two large refiners told me that they're getting killed in that area," says one Michigan chain retailer who refuses to sell in Detroit. "They want to close their stations down until the market gets better."

Some dealers report that motorists complain that their cars are stalling. When the fuel tanks are flushed out, the dealers say they find substances that barely resemble gasoline.

"It appears to us that there is a double-blending process going on," says Chuck Shipley, executive director of the Service Station Dealers Assn. of Michigan. "Some people are taking advantage of the tax break on a proper blend of ethanol, but using an 8-to-1-to-1 mix including methanol."

There are a host of problems with swelling of rubber parts in the carburetors, say repair shop owners. "We replace the parts and, before the warranty's up, two weeks later the customer brings the carburetor in again," says Kenneth Kirkman, of Kirk's Carburetors, the city's largest carburetor rebuilder. In fact, lopsided blends have been a source of hundreds of the company's repair jobs recently.

Marketers say this sort of blending

September 1983

$4.00

MacLeod: Are Multiple Supplies Cricket?
Overcharge Refunds May Be in Your Future
How Chicago Fuel Oil Firm Turns a Buck

NPN

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Fuel Oil Outlook:

Full-Blown Profits Or Melting Demand?

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PEI Show Issue

NATIONAL PETROLEUM NEWS

SEPTEMBER 1983 VOL. 75, NO. 9

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There is cautious optimism in the air among fuel oil dealers. Given a meaningful break in the weather, they could be in for a happier heating season. But there is also a note of concern in the outlook.
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Cover photography by Tony Keisman

Momentum is building among jobbers, refiners and others chasing after $6- to $10-billion in refunds stemming from crude and refined product overcharge cases.
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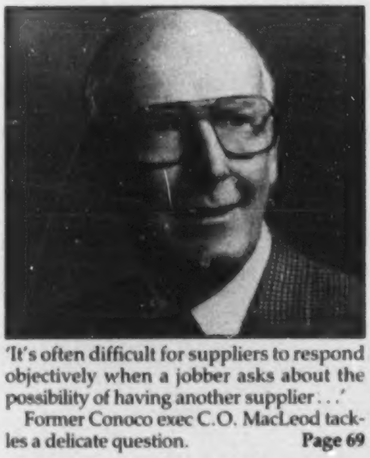


'It's often difficult for suppliers to respond objectively when a jobber asks about the possibility of having another supplier . . .'
Former Conoco exec C.O. MacLeod tackles a delicate question. **Page 69**

• TRENDS

A Ban on Self-Serve Leaded Is Still Live Issue at EPA

It was Henry Ford who reputedly told buyers of his early automobiles that they could have any color paint job they liked—so long as they liked black. Motorists pulling up to self-service pumps may soon face the same kind of choice. They'll be offered the gasoline of their choice—if they want unleaded.

For months, rumors have been flying around Washington that the Environmental Protection Agency (EPA) is seriously considering a ban on the sale of leaded gasoline at self-service pumps. EPA officials have told *NPN* that such a move "is one of several options being explored." But they refused to speculate whether such a proposal might become more than just an "option." Whether or not such a ban emerges from the recesses of EPA headquarters, it is a sign the agency is devoting a substantial amount of time and resources to ridding the air of lead pollutants and has not exhausted its supply of weapons.

The fate of the self-service ban probably will be decided by EPA's efforts to enforce federal laws against fuel switching and tampering with auto emissions control systems.

Enforcement definitely is being emphasized lately. Earlier this year, EPA slapped $5-million in proposed penalties on seven distributors and 10 retailers in the Chicago area for alleged fuel switching violations. Investigations are underway in several other areas, including St. Louis. The agency also is cracking down on repair shops that allegedly alter fuel and emissions systems to allow unleaded-only vehicles to operate on leaded gasoline [NPN—May '83, p45].

EPA is enlisting the aid of state officials, who can supply the needed manpower to make unannounced spot checks at retail stations, tank farms and refinery racks.

If EPA's crackdown on fuel switching is a success, one might presume a ban on self-serve leaded would never surface. But a top enforcement official says the prospect of a prohibition won't necessarily lessen, if a number of fuel switchers are nabbed. In fact, just the opposite may be true.

If investigations uncover a large number of cases, fuel switching may be far more prevalent than the agency now believes, according to EPA official Richard Kozlowski.

"If the practice is that widespread," says an aide to EPA Administrator William Ruckleshaus, "it may be more economical to limit consumer access to leaded gasoline (than to beef up enforcement further)."

One thing marketers can assume is that EPA's concentration on fuel switching isn't going to evaporate. There are several strong reasons for that.

First, automobile lead emissions is an easier issue to deal with than are other environmental problem areas like acid rain or toxic waste. There is agreement that lead in the air is harmful and that it comes from automobiles burning leaded fuel. Even when EPA was in the middle of its controversial lead phasedown proceedings, the best argument against the rules that refiners and lead additive makers could muster was that leaded fuel use is declining.

Fuel switching is an easy target. Evidence is not difficult to gather, and cases are easily won if they wind up in court. The laws against switching (and tampering) have been tested and aren't likely to be changed if Congress gets around to amending the Clean Air Act this year or next.

Finally, the embattled EPA yearns for high-visibility, non-controversial enforcement actions. A staff aide to Sen. Robert Stafford (R-Vt.), the leading Senate advocate for Clean Air legislation, puts it this way: "We've been pressing EPA to show us it is doing its job. This is one area where it can do that without much risk of a backlash."

The prospect of a regulation—or a law—prohibiting leaded gasoline sales at self-service pumps is an ugly one for marketers, but it isn't the worst possible scenario. As leaded fuel's market share dwindles (an inevitable event, as older lead-burning vehicles are replaced by newer models), it becomes politically easier for Congress or EPA to start thinking about a flat ban on leaded fuels.

Conservative forecasters say that won't happen this decade. There are indications, however, it may happen much sooner. Just a few months ago, District of Columbia Appeals Court Judge Patricia Wald told EPA officials she, for one, could see ample legal justification for EPA to ban leaded gasoline completely.

Another casualty may the 8¢ gal. price advantage leaded gasoline enjoys over unleaded. It would take an act of Congress, but it isn't out of the question. During a round of hearings late last year, lawmakers took refiners over the price difference between leaded gasoline and unleaded. Said one: "The main reason people are switching fuels and tampering with air pollution equipment is because leaded gas is cheaper. As a matter of environmental policy, it shouldn't be."

—Thomas Goldsmith

• MARKETPLACE AT A GLANCE

AVERAGE GASOLINE PRICES IN THE U.S. (¢ per gal.)

JUNE	Gasoline (All types)	Leaded Regular	Unleaded Regular	Leaded Premium
U.S. City Avg.	$1.261	$1.197	$1.277	$1.429
Regions:				
Northeast	1.258	1.194	1.261	NA
North Central	1.271	1.225	1.290	NA
South	1.232	1.164	1.248	NA
West	1.287	1.206	1.312	1.432

Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

STOCKS (Add 000 bbl.)

	7/29/83	7/30/82
Gasoline (total)	226,810	226,613
Gasoline (unleaded*)	89,950	92,221
Kerosine **	33,860	35,625
Distillates	128,464	145,635
Residual	48,581	56,250

**Included in gasoline total.*

***Jet kero only; totals no longer kept by API and DOE.*

Source: American Petroleum Institute.

NPN

NATIONAL PETROLEUM NEWS SEPTEMBER 1983

Swarming After the Overcharge Billions: Will Jobbers Come Up With Their Share?

Momentum continues to build among marketers, refiners and myriad other parties who are chasing after anywhere from $6- to $10-billion in refunds stemming from crude and refined product overcharge cases.

Representatives for dealers, jobbers, refiners, end-users, consumer groups, state governments and even the federal government itself are clamoring in the courts, badgering bureaucracies and lobbying legislators in an effort to recover a portion of the settlement money that arose from violations of federal price controls between 1973 and 1981.

Last month, for instance, lawyers retained by Getty jobbers led a charge down Pennsylvania Avenue toward the Department of Energy to convince it to spring loose some $25-million just gathering interest on earlier settlements between Getty and the government.

A small but ornate courtroom in Wichita, Kan. last June was literally packed with lawyers and their clients contesting for their share of more than $1-billion paid by 21 oil companies found to have violated price regulations.

Such scenes will be repeated in different courtrooms quite often during the next several months, and jobbers particularly will be sweating at the palms for their share of this pot of gold. In fact, the list of jobbers signing on legal counsel to assist in their quest is growing, according to Bassman & Mitchell, the Washington law firm representing National Oil Jobbers Council (NOJC) and about one thousand individual marketers.

But while the potential rewards are enormously high, the competition is stiff and the lengthy game is grueling. So, what chances does a jobber have of getting his share?

"First of all, there's some question of the amount that's at stake because we still haven't really identified all the pots yet," says law partner Doug Mitchell. (See accompanying chart.) "Still, there has been suprising progress. And, if jobbers do get involved, the payoff could be spectacular."

Much of the settlement money may end up in the Federal Treasury or be divided among the states. Last December, Sen. John Warner (R-Va.) nearly put jobbers' chances out of reach when he sponsored a bill that automatically would have channeled the refund pot to the states. (As it turned out, the states did receive $200-million of the $280-million on hand at that time.) But the legislation was amended, effectively opening the door for a free-for-all.

An exact refunds status report is very difficult to come by. But here are some of the more important developments affecting jobbers in recent months:

—Some 1,300 Amoco jobbers last Christmas Eve were allowed to receive more than $5-million, based on a notion that they were *presumed* to be injured by overcharges, rather than having to prove injury [NPN—Feb. '83, p28].

—Last February, four jobber groups were granted the right to participate in DOE's first real effort to divvy up the crude oil pie. And, later that month, DOE's Office of Special Counsel abandoned the position that all the money should go to the states, favoring "identifiable purchasers" including jobbers. (That important development in early August was still subject to court approval.)

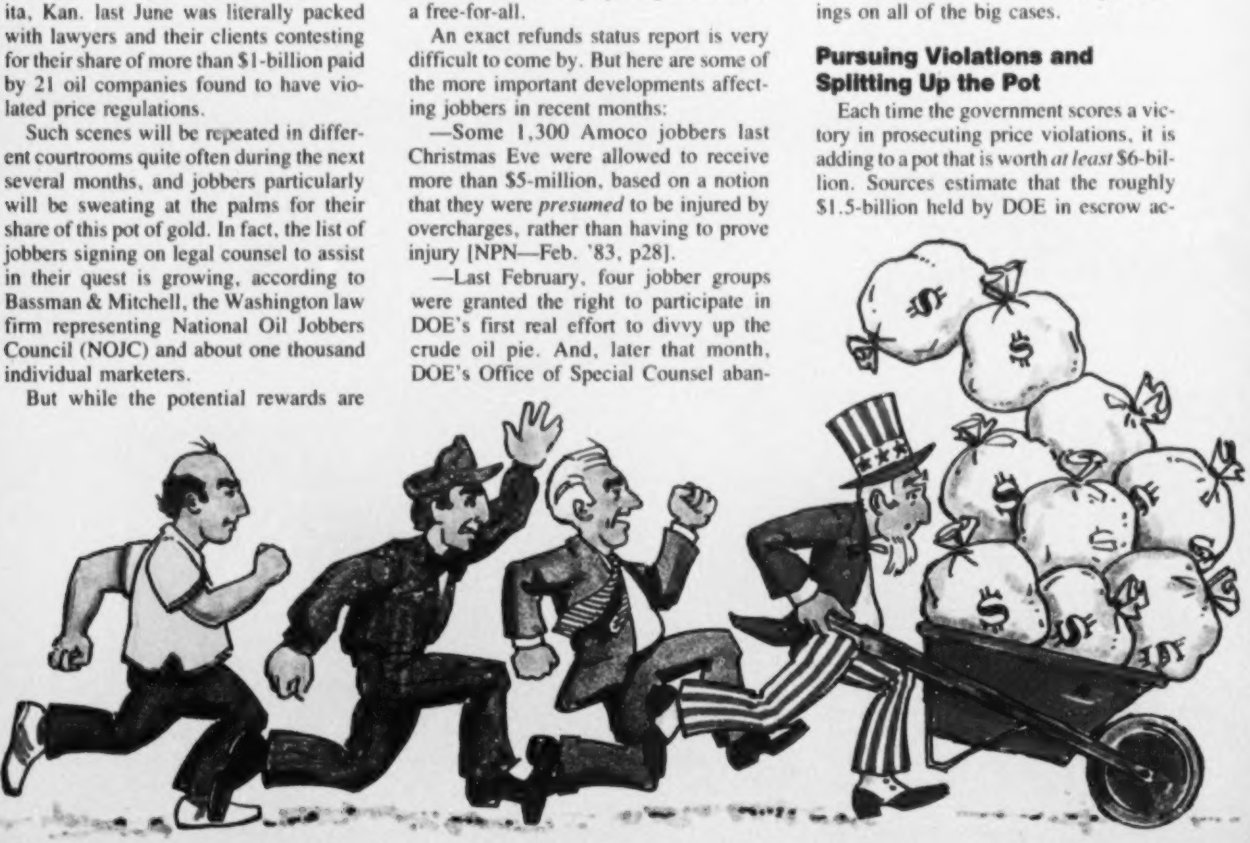
—In May, NOJC and other jobbers represented by Bassman & Mitchell were allowed to join in an appeal of an earlier court decision to send $1.6-billion of Exxon money to the states [NPN—June '83, p12]. Shortly thereafter, the same door was opened to jobbers under a Kansas case involving $1.2-billion in refunds.

—In June, the General Accounting Office came to the aid of jobbers with its study that suggested DOE ought to identify purchasers—a position subsequently reenforced by a House committee [NPN—July '83, p31].

—Lastly, the federal government itself has stated that it will appeal the Exxon decision, leading some industry observers to believe DOE will seek refund proceedings on all of the big cases.

Pursuing Violations and Splitting Up the Pot

Each time the government scores a victory in prosecuting price violations, it is adding to a pot that is worth *at least* $6-billion. Sources estimate that the roughly $1.5-billion held by DOE in escrow ac-



counts alone earns $500,000 every day.

"I'm used to covering this crazy town," says *NPN* Washington correspondent Tom Goldsmith, "but when I look at all the money that's at stake in these cases, it's really mind-boggling."

The crude oil segment of the refund pie is by far the largest. That's because price distinctions between controlled and decontrolled crude oil at some points approached $20 bbl., (as opposed to the fixed-penny margins on finished product). In fact, the three largest crude oil cases alone—*Exxon*, *Texaco*, and *Energy Reserves*—could contribute more than $4-billion to the refund pot. [See chart.]

The most advanced of the lawsuits is *Energy Reserves*. There, the Supreme Court already has ruled against the crude producers. Now, the district court must decide who gets the money. In the *Exxon* case, the U.S. Court of Appeals probably will not hear legal arguments on whether the company must surrender its staggering $1.6-billion judgement until January, says lawyer Mitchell. In early August, the Texaco case had not yet been heard by the District Court.

One of the ironies about the emergence of these colossal cases is that they are coming up at all, says one insider. "DOE had not been aggressive in going after these cases in the past," says this source. "The main reason they're coming up is that a few of the major oil companies *thought* they could win them. But now, they aren't."

Besides the really big cases, there are numerous medium- and small-sized ones. (The Getty case mentioned earlier is considered "medium potatoes," for instance.)

One smaller case before DOE's Office of Hearings and Appeals (OHA), *Alkek/Adams*, involves distribution of $65-million now held by DOE in an escrow account. In that important case, OHA permitted Amoco, Conoco, Union and Gulf jobbers to intervene and argue that they have a legitimate claim on the money, even though none of them bought crude or refined product from those particular producers, explains Mitchell.

Many of the smaller, finished product settlements already have led to marketer refunds. The largest one being a $100-million settlement with Amoco in 1979. Other million-dollar-plus cases where jobbers benefited involve Ashland, Coastal, Vickers, Tenneco and Charter.

Ingredients in the Pot o' Billions:*

Settlements that Could Involve Refunds:#

Allied Materials Corp. & Excel Corp. ($850,000)
Aminoil ($16.5-million)
Basin (?)
Bayou State Oil ($1-million)
Beacon ($5-million)
Boron ($5-million)
BP ($5-million)
Champlin ($7.1-million)
Chevron ($47-million)
Crystal ($200,000)
Delta ($7.9-million)
Earth Resources ($7.9-million)
Evangeline ($190,000)
Fletcher ($2.8-million)
Gary ($600,000)
Golden Eagle ($81,000)
Gulf ($42-million)
Gulf States Oil ($700,000)
Hess (?)
Husky ($2-million)
Ida Gasoline ($1-million)
Kenco Petroleum Marketers ($29.7-million)
Kenco Refining Co. ($50,000)
Kendall ($4.5-million)
La Gloria ($600,000)
Lakeside ($200,000)
Little America ($2.2-million)
MacMillan Ring-Free ($1.55-million)
Nevada Refining ($137,600)
Newhall (?)
Oxnard ($790,000)
Pasco ($2.2-million)
Pride ($600,000)
Quaker State ($4.8-million)
Sinclair ($2.2-million)
Sohio ($5-million)
Somerset (?)
Southern Union Refining ($220,000)
Sunoco ($29.7-million)
Texas Eastern ($600,000)
USA Petroleum ($1.75-million)
Union Texas ($1.9-million)
United Refining (?)
Witco ($4.5-million)

***Distributions pending at DOE's Office of Hearings and Appeals in early August: Conoco, Apco and Onco.**
#All dollar amounts are estimates, due to the complex and often redundant nature of DOE overcharge allegations.

Finished Product Cases in Litigation:

(Amounts are estimates based on DOE's incomplete public files. Some of these companies may be completely innocent of the alleged violations.)

Agway ($50-million)
Apex ($300-million)
Arco ($100-million +)
Asamera ($16-million)
Bi-Petro ($4.4-million)
Clark ($300-million)
Crown ($34-million)
Exxon ($390-million)
Gulf ($35-million)
Hudson ($25-million)
La Jet ($8-9-million)
Marathon ($350-million)
Mobil ($77-million)
Murphy ($74-million)
Pester ($4.7-million)
Placid ($6.7-million)
Powerine ($20-million)
Rock Island ($5.4-million)
San Joaquin ($4.4-million)
Shell ($300-million +)
Tesoro ($13-million)
Texaco ($400-million)
Total ($23.2-million)
Winston ($1.7-million)

Already Refunded to the States:

Boron ($10-million)
BP ($10-million)
Chevron ($25-million)
Sohio ($10-million)
Time Oil ($860,000)

The Best-Laid Plans . . .

Like any lucrative form of competition, however, overcharge settlements draw players "like bees to a honey pot," notes the judge in the Wichita, Kan., case. And, each party from the federal government to the end-user has adopted a strategy or two to garner its share of the pie.

—Federal government: Originally, it hoped to put all refund money in the U.S. Treasury, arguing the petroleum distribution system was too complex to divvy up spoils. But that position eroded to where OHA seems ready to hear refund proceedings in nearly every case, only claiming the leftovers for government coffers.

—State governments: Legal representatives there say individual refund recipients can't be identified and that all overcharges were passed through ultimately to the consumer anyway. So, since the states constitutionally represent the people more than does the federal government, overcharge settlements should go to the state level, say state proponents.

Other Refunds Already Made:#

(An ✻ indicates a small chance that jobbers could still be eligible.)

Amoco✻ ($102-million)
Ashland ($10-million)
Billups Western Petroleum ($3.2-million)
Century Refining ($280,000)
Charter✻ ($3.2-million)
Citgo ($10-million)
Coastal ($5-million)
Corco ($10-million)
Derby ($5-million)
Diamond Shamrock ($65,000)
Edgington ($2-million)
Farmland ($1-million)
Fina ($14-million *distributed*)
Hess ($35-million)
Kerr-McGee ($6.6-million)
Kern County Refining✻ ($3.2-million)
Koch ($4-million)
La Gloria ($6-million)
OKC✻ ($4.75-million)
Panhandle ($280,000)
Pennzoil✻ ($3-million)
Phillips ($3-million)
Southern Stores✻ ($3.2-million)
Super Test Oil & Gas✻ ($3.2-million)
Tenneco ($5-million)
Tosco ($4-million)
Union ($8-million)
Vickers ($2.85-million)
Wood River ($4-million)

✻Distributions pending at DOE's Office of Hearings and Appeals in early August: Conoco, Apco and Onco.

#All dollar amounts are estimates, due to the complex and often redundant nature of DOE overcharge allegations.

—Major refiners: Many argue that since they bought the crude from themselves in most cases and market conditions didn't permit them to pass on overcharges to customers, they should receive refund money.

—Small refiners: Since the entitlements program averaged crude oil overcharges, and they too were forced by market conditions to absorb the overcharges, they ought to receive all the money in the pot.

—Dealers: Some say refiners and wholesalers passed through all their costs to the dealer; others say they were hit by overcharges at least as hard as any other tier of the distribution chain.

—Jobbers: Like the more moderate dealer position, jobbers argue that each level of distribution chain bore at least *some* of the cost of overcharges, including consumers and refiners.

That view runs parallel with OHA's "average" level of injury theory as applied in the Amoco refund proceeding, says Bassman & Mitchell's Bob Bassman. "The positions of many of the parties—that they are sole victims of the overcharges—just does not square with the conditions in the petroleum market during the '70s," he says.

"So, we hope to get the courts to give the money to OHA, so the jobbers have a chance to convince OHA that they are entitled to a portion of the refunds," he says.

It is difficult to say which cases will be resolved (in *anyone's* favor) the fastest. But since the federal government seems to lean toward seeking to refer funds to OHA—as jobbers seem to favor—refunds from the *Energy Reserves* case, the *Alkek/Adams* case and perhaps others could soon find themselves on their way into different pockets, according to Bassman & Mitchell.

"Jobbers' skepticism over receiving any portion of the amount at the outset of this refund race stalled early efforts," says Mitchell. But participation has grown to more than 1,000 jobber clients for his firm, he says, and the jobbers' chances now seem "almost even." NPN

SSDA Would Cut Vapors With Filler Neck Seals

The Service Station Dealers of America (SSDA) has asked Congress to require automakers to put special seals on filler necks of auto fuel tanks to prevent station attendants and motorists from inhaling gasoline vapors.

Citing a recent warning issued by the American Petroleum Institute (API) that gasoline vapors may cause kidney cancer in rats, SSDA executive director Vic Rasheed said the $10-$15 donut seals would be welcomed by motorists. The seals would make the on-board vapor recovery systems in most automobiles today a "complete, self-contained vapor recovery system," says Rasheed.

The SSDA exec also pointed out that such a system, if adopted, would eliminate the need for the stage II vapor recovery nozzles required by federal regulations in some jurisdictions. Rasheed complained the nozzles are heavy, difficult to use and can cause pump malfunctions. The on-board system, he added, would be used nationwide, while the nozzle system so far applies only to large-volume stations in heavily populated areas. NPN

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MEMBER PEI

Rosier Profits for Most Majors in Second Quarter

Except for Arco, Gulf and Union, all of the top oil companies fared well in their second-quarter earnings statements.

Exxon, Mobil, Texaco, Standard of Indiana and Standard of California led the way. But Standard of Indiana and Texaco, while up in the second quarter, couldn't quite offset their negative first quarters and wound up with minus signs for their six months of effort.

Exxon, Mobil, Texaco and Socal are Aramco partners and heavy buyers of Saudi Arabian crude. Their profits were helped by the fact that Saudi Arabia lowered its crude price to $29 bbl., matching the OPEC level and eliminating the $5 disadvantage the American companies had to live with previously.

(Millions of dollars)

Company	2nd qtr. 1983	2nd qtr. 1982	% Chng.	1st half 1983	1st half 1982	% Chng.
Exxon	$1,075.0	$849.0	26.6%	$2,135.0	$1,688.0	26.5%
Mobil	402.0	287.0	40.1	652.0	531.0	22.8
Texaco	327.0	305.0	7.2	646.0	672.0	(3.9)
Stand. of Ind.	426.0	382.0	11.5	825.0	852.0	(3.2)
Stand. of Calif.	368.0	263.0	39.9	678.0	493.0	37.5
Atlantic Rich.	393.4	409.8	(4.0)	723.7	795.2	(9.0)
Shell	390.0	380.0	2.6	636.0	724.0	(12.2)
Gulf	223.0	227.0	(1.8)	405.0	515.0	(21.4)
Tenneco	205.0	204.0	0.5	315.0	333.0	(5.4)
Stand. of Ohio	476.0	473.0	0.6	753.0	928.0	(18.9)
Phillips	169.0	146.0	15.8	298.0	338.0	(11.8)
Sun	135.0	110.0	22.7	225.0	234.0	(3.8)
Getty	(86.1)	156.9	—	71.7	336.6	(78.7)
Union	139.4	197.6	(29.5)	267.7	366.1	(26.9)
Amerada Hess	68.2	61.1	11.6	73.2	44.9	63.0
Ashland (a)	37.1	69.1	(46.3)	51.8	105.0	(50.7)
Kerr-McGee	37.8	50.2	(24.7)	61.5	79.4	(22.5)
Diamond Sham.	29.5	31.9	(7.5)	34.2	96.6	(64.6)
Murphy	40.4	41.7	(3.1)	68.2	35.1	94.3
American Petrofina	8.6	10.9	(21.1)	8.9	26.9	(66.9)
Crown Central	3.9	(2.9)	—	(6.6)	(5.9)	—
Commonwealth Ref.	(3.6)	(2.6)	—	(3.8)	(15.3)	—
Quaker State	12.0	14.0	(14.3)	18.2	19.8	(8.0)
Southland Corp.	34.0	35.2	(3.4)	41.7	44.7	(6.7)
Pennzoil	29.3	44.8	(34.6)	70.6	84.7	(16.6)
Total Petro.	(16.5)	(5.4)	—	(53.6)	0.8	—

(a) Third quarter and nine months; fiscal year ends 9/30.

Carwash Association Backs Retail Divorcement

The push for federal divorcement legislation now has the nation's carwash industry behind it.

At its summer convention in Chicago, the 3000-member International Carwash Council adopted a resolution to organize a lobbying effort supporting the two divorcement bills pending in Congress. The group appointed a legislative committee on divorcement, but has not yet decided how much it would spend in the effort.

An association spokesman says that major oil company giveaways are the group's primary concern. He says widespread offers of a free wash with a fill-up are driving "mom and pop" outlets out of business.

"The majors are able to adjust prices for their gasoline because they own and operate the stations," says Bruce Milen, association president, "Even selling gasoline, a carwash operator could not survive. I would have to raise my gasoline prices to offer a free carwash."

Milen estimates that there are about 22,000 carwash operators nationwide, most of them independent dealers operating a single outlet. He says about 60% of these operators sell gasoline.

Meanwhile, Vic Rasheed, executive director of the Service Station Dealers of America, says this new ally demonstrates that support for divorcement is growing.

Rasheed says his organization continues to encourage support from jobbers for the two Congressional bills, although he says the National Oil Jobbers Council has declined to take a position on the measures.

Rasheed says that one possibility for a dealer-jobber compromise is on the bills' open supply provisions. He explains his organization is studying a 50% open supply provision adopted by dealers in Australia, which allows dealers to purchase half of their product from alternate suppliers if they feel their main supplier isn't offering competitive prices.

Gas Decontrol Moving Through Senate, But Bogged Down in House

The full Senate will get a chance this month to go on record for or against proposals to lift price controls on natural gas. After weeks of haggling, the Senate Energy Committee in late July voted to send the controversial decontrol proposal to the Senate floor without a recommendation.

The bill that will come before the Senate is a compromise effort that lifts all limits on natural gas prices, but at a slower pace and with more consumer safeguards than the White House originally sought.

Energy Secretary Donald Hodel called the compromise a "step in the right direction," and urged the Senate to approve it, despite discrepancies with the White House original. The bill faces a stiff floor battle, however, and must await House action on similar legislation. The two bills almost certainly would wind up in a conference committee for final drafting.

The Senate measure lifts controls on gas prices over a three-year period and includes "old" gas (discovered before April 1977) as well as "new" gas. To help keep prices down, the measure also gives large gas customers a chance to partly escape from long-term "take or pay" contracts that force them to purchase higher-priced gas in lieu of spot market supplies that for now are considerably lower. Under the bill, buyers would have to take only half the contract gas the first year the bill is in effect, 60% the second and 70% the third.

The "no recommendation" came on an 11-8 vote in the energy committee, which spent a record 31 working days debating its merits and making changes.

When it goes to the Senate floor, the bill faces still more debate, including the threat of a filibuster by Sen. Howard Metzenbaum (D-Ohio), an ardent opponent of decontrol.

Meanwhile, a House Energy subcommittee is bogged down trying to draft a companion bill to the Senate measure. House lawmakers have been unable to agree on the decontrol of pre-1977 gas. The old gas is relatively inexpensive to produce, and opponents of decontrol say allowing its sale at market prices would create a financial windfall for producers, mainly the major oil companies.

An Energy Department study publicized by *The Washington Post* during the Senate committee's deliberations said the nation's 16 largest oil companies would get from $1.8-billion to $4.2-billion in revenues the first year after old gas controls are lifted. The biggest winner, according to DOE figures, would be Gulf Oil, which would reap an extra $645-million to $869-million, depending on the level at which prices stabilize.

Fleet Customers Bump Up Propane Demand

Motorists aren't waiting in line for it at the pump, but industry sources say LPG seems to be making a slight comeback as a motor fuel.

Some jobbers report successful sales to municipal and commercial fleet operations. In Iowa, for example, one jobber says he has won over two school districts to propane, selling about 50,000 gal. to the districts during the average school year. The jobber says he reaps about 7¢ gal. more in tankwagon profits on propane than he does on gasoline. And, the propane he sells is about a dime cheaper than the gasoline sold in nearby towns.

A survey of more than 1,600 commercial fleets by Runzheimer and Co., Northbrook, Ill., showed 11% of the firms switched from gasoline to alternative fuels, and the fleet market is where industry sources say propane has its greatest growth potential.

Kentucky, for example, is experimenting with a 26-vehicle LPG car pool for state employees and is considering converting more of the state's fleet for LPG use. The state offers a sales tax break on vehicles with state-approved carburetion systems.

The $1,000 to $1,500 price of converting a vehicle for propane use, as well as fears of its flammability, however, have kept propane from widespread road use, jobbers say.

Interest in propane as a motor fuel rose with gasoline prices in 1981, then dropped when the oil glut pushed gasoline prices back down. The National LP-Gas Assn. (NLPGA) says LPG carburetor sales have tapered off over the past couple of years, and Ford Motor Co. reports that orders for propane-powered cars have plummeted from 1,000 in 1982 to 200 in 1983. This year, the company opened up sales of the cars to retail customers. (The vehicles formerly were offered only to commercial fleet operators.)

"We feel there is a market for this kind of vehicle, although not a large one by any means," says a Ford spokesman. "We think there are some retail customers who would want a propane-powered car, such as farmers and others who live near propane outlets."

While gasoline consumption dropped, LPG motor fuel consumption increased steadily over the past several years, jumping 15% between 1981 and 1982 (the most recent figures available), according to Department of Energy statistics. And, some state tax and licensing figures seem to indicate the market is strengthening:

—In Michigan, for example, tax revenues from LPG motor fuel increased 20% in 1980, 51% in 1981 and 28% in 1982, while the number of licensed distributors remained stable.

—In Missouri, the number of service station dispensers has increased steadily over the past few years, more than tripling between 1979 and 1982.

—Iowa officials report a 24% increase in LPG motor fuel tax revenues between 1981 and 1982 and a surge of about 600 new retail dispensers this year out of 2500 total dispensers in the state, although some of the increase may be the result of better licensing procedures.

State and potential federal tax incentives also may give the fuel a boost in coming years. Eight states offer tax breaks on propane motor fuel, and the NLPGA is lobbying Congress for either a lower tax rate for propane or a flat annual fee for propane-powered vehicles.

"Our position is that there are fewer BTUs in propane than in gasoline, and it should be taxed at a lower rate," says an association spokesman. "We are preparing a package which would correct this inequity."

Economists predict a healthy, though not robust, propane market in the 1990s.

"There was a big push for propane motor fuel during the past decade, as well as considerable growth, and the industry got excited about it," says Bruce Netschert of National Economic Research Associates, Inc., in Washington, D.C. Netschert says in the last year or so, many dealers' spirits plummeted with gasoline prices.

Netschert, however, believes in the long-run, LP-gas should keep its price advantage over gasoline and diesel.

Propane's Consumption Figures Grow. . .

1982	643,946,000 gal.
1981	550,721,000 gal.
1980	508,011,000 gal.
1979	443,732,000 gal.

While Carburetor Conversions Decline. . .

	No. of Carburetor Sales
1982	256,944
1981	354,507
1980	390,975
1979	249,730
1978	139,364
1977	135,685
1976	123,557

Source: Department of Energy

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DOE Updates Its Shuttered Refinery Count

The downward shift in product demand and economic pressures favoring more sophisticated facilities brought 63 refineries permanently to their knees last year, according to updated government statistics.

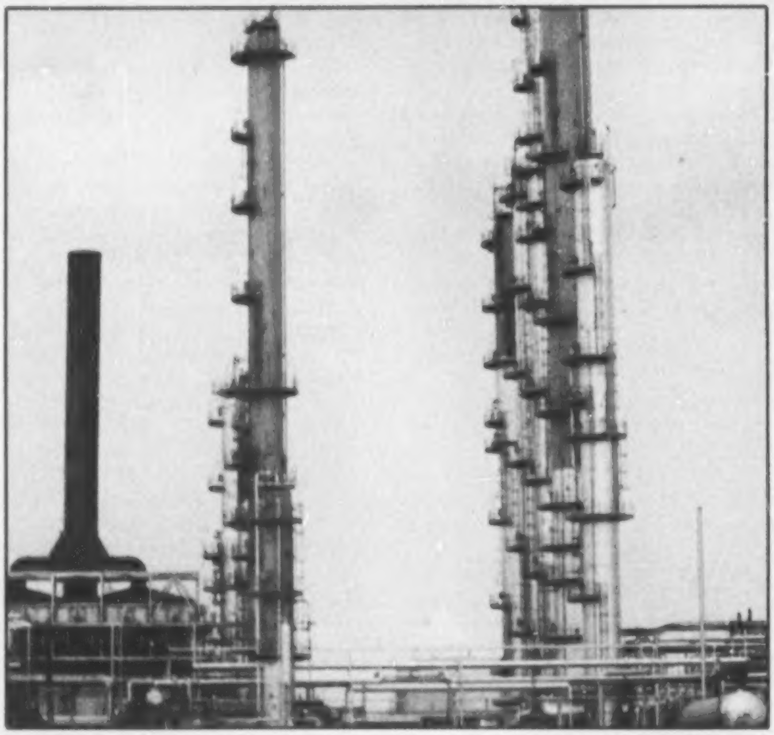
According to a thorough accounting of petroleum supply by the Energy Department, more than 1.2-million b/d of operating capacity was shut down in the 12-month period ending last Dec. 31. The number of closures represents a nearly three-fold increase over the rate in 1981, when 23 refineries shut their doors [NPN—May '83, p32].

The report, released in July, includes a half-dozen closed facilities—totaling more than 62,000 b/d operating capacity—which were not accounted for in a DOE survey released early last spring.

On January 1 of this year, there were 253 operable refineries in the U.S. with almost 16.9-million b/d of operating capacity, DOE figures show. This compares to the peak capacity of recent years of more than 18-million b/d registered in January 1981.

"Smaller, less complex refineries which were unable to produce additional, light products from less expensive, heavy, high-sulfur crude oil were at an economic disadvantage," notes the DOE report. "In addition, some refiners changed their marketing and distribution networks in recognition of these changing conditions, and closed their least profitable facilities while expanding others to be able to produce more marketable products (meaning lighter products.)"

Some signs of a slightly better supply/demand balance, however, are reflected in refinery utilization rates for first-quarter this year compared to that for 1982. Rates for the first three months of 1983 bested year-ago percentage figures by roughly 0.5%, with April of this year at 69.3% utilization versus 66.2% the previous year. (The average monthly rate for all of 1982 was 69.85%.)



January marked roughly 16.9-million b/d, capacity, versus 18-million b/d in early 1981.

District/refinery	Location	Operating Capacity (b/d)	Years in Operation
PAD I			
ELK Refining Co., div. of Pennzoil Co. Inc.	Falling Rock, W. Va.	5,600	25+
PAD II			
Flying J Inc.	Williston, N.D.	4,250	25+
Okmulgee Refining Co.	Okmulgee, Okla.	25,000	25+
PAD III			
Brio Refining Inc.	Friendswood, Texas	12,500	4
Evangeline Refining Co.	Jennings, La.	4,500	25+
PAD V			
Coastal Petroleum Co.	Paloma, Calif.	10,200	3
Total:		**62,050**	

Petroleum Marketers' Profit Returns Halved During Past Three Years

Both gasoline and heating oil marketers have seen their profit margins and returns on assets and equities cut nearly in half or more since 1979-80, according to a ninth annual study of "Financial Characteristics of Petroleum Marketers" by Philip L. Cooley.

Cooley, a professor of finance at the University of South Carolina, performed the study under the sponsorship of the Petroleum Marketers Education Foundation.

Based on responses from over 300 marketers, Cooley found that by most financial measurements, jobbers remain in a four-year slide that began in late 1979.

This is how he finds the average gasoline marketer has done over the four years in three categories:

	1982-83 (%)	1979-80 (%)
Profit Margin	.55	1.24
Return on Assets	4.3	7.7
Return on Equity	10.7	19.9

The average heating oil jobber has even greater percentage losses, as follows:

	1982-83 (%)	1979-80 (%)
Profit Margin	.63	2.20
Return on Assets	3.5	9.3
Return on Equity	8.8	24.9

Cooley says the .55% average profit margin in 1982-83 means that a jobber realizes about .55¢ per dollar of sales. This decline has been partially offset by increases in sales per dollar of assets. And, the average jobber debt level has remained about the same over the past two years, he found.

Tally of State Tax Hikes Finds Dip in Flex Formula

A near-record 18 states increased their motor fuel taxes this year, the highest number of state motor fuel tax hikes since 1981's 22-state boost, according to the Highway Users Federation.

A federation spokeswoman says the round of tax hikes is an attempt to match federal highway aid and repair local roads and bridges. The federal government funds only about a quarter of all the road mileage in the U.S., and the states must match between 10% and 25% of the aid they receive.

1983 Motor Fuel Tax Hikes*

State	Gasoline	Diesel	Increase
Colorado	12¢	13¢	3¢ gas/4¢ diesel
Connecticut	14	14	3¢
Florida	9.7	9.7	1.7¢
Idaho	14.5	14.5	2¢
Illinois	11	13.5	3.5¢ gas/6¢ diesel
Kansas	10	12	2¢
Maine	14	14	5¢
Massachusetts	11	11	1.1¢
Minnesota	16	16	3¢
Montana	15	17	6¢
North Dakota	13	13	5¢
Oregon	8	8	1¢**
Pennsylvania	12	12	1¢
Rhode Island	13	13	2¢
Vermont	13	14	2¢ gas/gasohol
Washington	16	16	4¢
West Virginia	15.35	15.35	4.85¢
Wisconsin	13	13	2¢

***Some of these states passed additional tax increases for upcoming years.**
****Not in effect until January, 1984. Increase is not reflected in the tax figures.**

In most cases, the state's motor fuel tax will vary with the price of gasoline. Some states may set a minimum per gallon tax.

"When the price of motor fuel suddenly started dropping in the states that didn't have a minimum tax rate, they didn't get the income they expected," says Catherine Yoe, who analyzes and compiles the federation's statistics.

Some states apply a percentage tax to gasoline, calling it a sales tax. Other states peg the tax rate to inflation. Yoe says many of these states are finding these more complex variable tax structures difficult to administer.

"Nearly every state that has passed a variable rate tax has adjusted it within the last year or so," says Yoe, "The variable tax has been tarnished because it hasn't worked. Now, if the states feel they need more money for next year, they will pass an increase for this year and also pass another increase that will go into effect the following year."

Nine states have passed multiple motor fuel tax hikes over the past two years. Yoe says motor fuel taxes increased this year in seven states and the District of Columbia as a result of legislation passed in previous sessions.

For oil jobbers, the federation has some good news and some bad news. The good news is that the trend toward variable rate taxes (which jobbers generally fight) is on the decline. The bad news is that state legislatures are approving tax increases for several years at once.

Twelve states have variable rate taxes, or taxes which can rise or fall without legislative action. Washington was the first state to pass a variable rate tax in 1977, but repealed the formula this year because it failed to generate enough revenue for the state's transportation programs.

No Uniform Rules On Tire Grading, DOT Tells Challengers

The Transportation Department (DOT) has flatly turned down a pair of requests that it drop plans to eliminate federal uniform tire grading regulations.

Earlier this year, DOT suspended the mandatory tire grading regulations, saying they were unreliable and shouldn't be used by consumers to judge the relative value of passenger car tires. While the suspension was in effect, DOT launched formal proceedings to determine whether the tests could be made more accurate or should be abandoned.

The petitions turned down by the agency last month were filed by the Center for Auto Safety, a consumer group, and by Uniroyal Tire Co., one of the few tire makers to support the grading regulations.

The DOT rules require tire manufacturers to display a tire quality rating determined by DOT tests. In theory, these were supposed to allow consumers to comparison shop for tires. But DOT said it found that the tests it used to rate the tires could not produce repeatable results, making the ratings of dubious value.

While it denied the two reconsideration petitions, DOT did agree to a third request, filed also by Uniroyal. The third petition suggests changes in test procedures which Uniroyal says will make them more reliable and produce repeatable results. Among the suggestions: more frequent tire rotations and swapping tires among several test vehicles, to ensure that vehicle differences don't affect test results.

A final ruling from DOT on the fate of the tire ratings probably will come early next year. The department could decide to do away with the ratings or keep them with improved testing procedures.

Congress Might Spare Small Business in Search for More Tax Money

Despite a self-imposed requirement to come up with $12-billion in net tax increases for next year, Congress seems quite willing to give small business a package of lucrative tax breaks over the next few years.

With very little visible opposition, both House and Senate lawmakers have begun work on a package of tax law changes which backers say will help small firms achieve the financial stability they desperately need.

The Senate version of the bill, dubbed the "Small Business Capital Formation Tax Act" would cut small business income taxes and change tax laws to encourage investments in smaller companies. The measure also would make it more attractive for owners of small businesses to sell them intact, rather than liquidate them upon retirement.

The House version does virtually the same, although the cut-off points are slightly different. Both are based at least partly on the recommendations of a blue-ribbon panel set up by Congress and headed by officials of the Securities and Exchange Commission.

The measures could emerge from the House and Senate Small Business Committees and be headed for floor votes in the next few weeks, according to Congressional staffers.

Should they be approved, the bills would:

—Reduce corporate tax liabilities for all firms making less than $200,000 per year. The rates would be 12% for firms in the $25,000 to $50,000 per year range, 20% in the $50,000 to $100,000 range, 30% in the $100,000 to $150,000 range, and 40% in the $150,000 to $200,000 range;

—Increase the capital gains deduction for investments in small businesses held at least five years. The current deduction is 60%, the bills would make that 80%;

—Permit small firms (those with less than $1.5-million in gross receipts for three consecutive tax years) to use cash receipts methods of accounting;

—Create a new 10% tax credit for investments in small businesses;

—Permit taxpayers to defer capital gains taxes from the sale of a small business by reinvesting the gains in another small company within one year.

Fuel Oil Outlook:

Full-Blown Profits Or Melting Demand?

By J. Richard Shaner
East Coast Editor

There is a note of cautious optimism in the air as the fuel oil industry heads into the 1983-84 heating season.

Given any kind of a meaningful break in the weather—in this case, not the warm sunshine of summer but the frigid blasts of winter, accompanied by icicles, frequent snow storms and a piling up of degree days—the industry should be in for happier times.

Suppliers and jobber/dealers alike agree that absolutely anything would be better than last winter, which wound up as the warmest in three decades. Another season like that would stretch most marketers thin and would be total disaster for many of the smaller companies which have to put it all together between Sept. 30 and April 30 to stay alive the rest of the year.

There is a note of concern in the moderately optimistic outlook too.

An abnormal run of very cold weather for a prolonged period could be equally upsetting. It could cause supply problems in many areas—spot shortages and cold consumers—until the refiners could rectify the situation with stepped-up runs to meet an unexpectedly high demand.

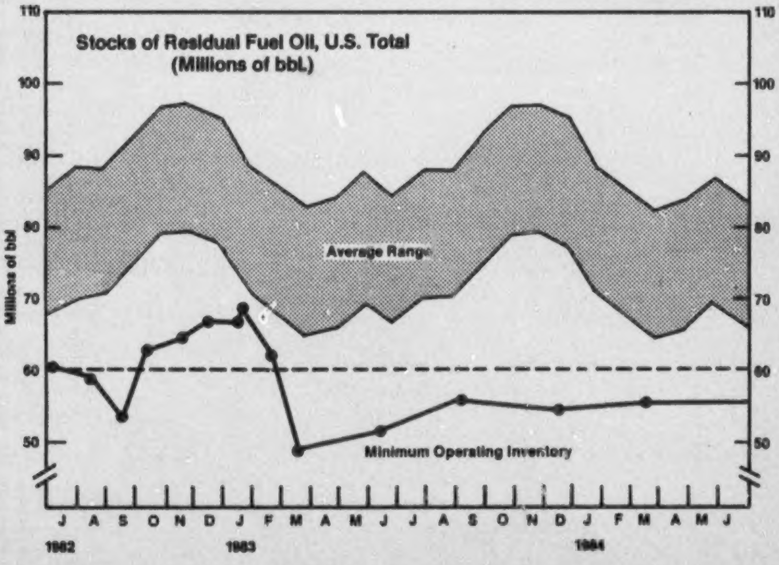
This is because the fuel oil industry is entering the fall/winter heating season like a high-wire artist balancing himself with a heavy pole on a taut but nevertheless swaying wire.

Primary supplies of both distillate and residual fuel oils are relatively low for this time of the year. In fact, only a couple of years ago, there was much hand-wringing and wailing by consumerists and government people who felt that primary supplies of distillate alone could not be less than 200-million bbl. by Sept. 30 to meet anticipated needs. Today, distillate inventories are in the neighborhood of 170-million bbl.

But demand is down too, especially for home-heating oil. This is a reflection of consumer conservation and a gradual shrinkage of the residential fuel oil market. In New England alone, says New England Fuel Institute president Charles Burkhardt, volume losses have been in the neighborhood of 25% in recent years—about 1-billion gal. of the 4.3-billion gal. sold in 1976-77. New England, significantly, accounts for about 75% of the heating oil consumed in the U.S. each year.

Here's what government forecasters say lies ahead for heating oil jobbers and dealers this winter, assuming that the weather will be normal, that the economic recovery will continue, and that crude oil prices will be stable:

- Supplies: Generally adequate on the national level with abundant reserves of crude oil and refining facilities to churn out more, if needed. Secondary supplies—those in the tanks of jobbers and retailers—were low in the summer months but were being built up to normal levels as the heating season approached.
- Demand: Stronger in the fourth quarter of this year and the first quarter of 1984, stimulated more by the improving economy and on-highway diesel growth than by the needs of the heating oil segment. Distillate demand is projected to average 3.3-million b/d in the fourth quarter of '83 and 3.4-million b/d in the first three months of next year. Resid will be up



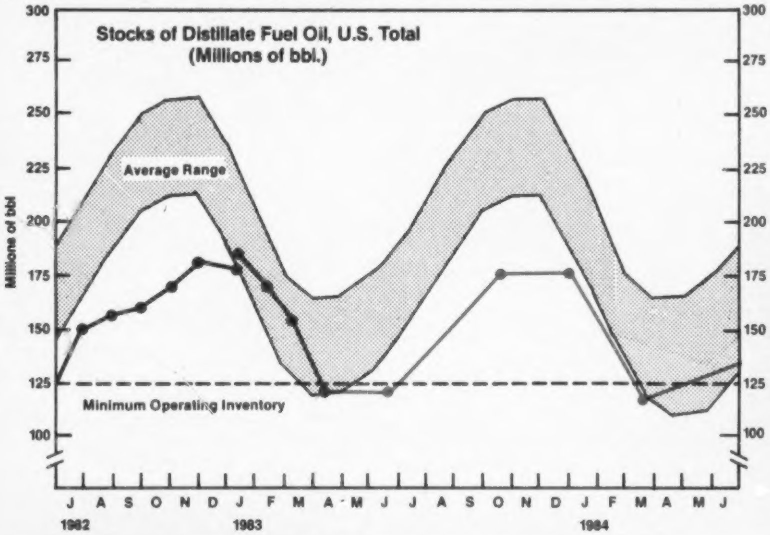
too, in a modest turn-around of the slump it has been in.

- Prices: Fairly stable for distillate only. Probably in the $1.08 to $1.09 gal. range in the third and fourth quarters of this year and perhaps $1.10 to $1.12 gal. in the first and second quarters of 1984. (No projections are available on resid prices because most of these sales are in bulk, on contract, and quite variable.)

- Margins: No worse than in 1982, when they averaged 20.2¢ gal. Perhaps a mite better in the last quarter of '83 and the first half of '84. Weather and demand will be key factors in the first and second quarters of 1984. If demand goes up, prices should rise and margins could improve.

Many Faces of Fuel Oil

There are two or three different ways to look at the distillate and fuel oil industry in relating and comparing the statistics of the past, present and future.



A Shrinking Pie: How the Fuel Oil Marketplace Has Changed in Recent Years

Distillate

	Thousands of Bbl.				Cents per gal.		
	Stocks As of 12/31	Product Imports (b/d)	Product Supplied	Residential Heating Oil Sales	Average Wholesale Price	Average Retail Price	Average Distributor Margin
1983	170,210	—	976,000	325,000	85.0¢	109.0¢	21.0¢
1982	178,600	93	976,280	324,912	97.4	119	20.2
1981	190,176	167	1,032,585	345,728	102.6	121	16.8
1980	205,132	139	1,046,090	393,112	82.2	98	15.8
1979	228,729	197	1,208,515	454,955	53.0	66	12.8
1978	216,463	173	1,252,680	533,069	38.7	49	11.0
1977	250,295	250	1,223,480	538,845	36.9	46	9.0
1976	185,986	146	1,143,545	543,898	32.6	41	8.0
1975	208,833	155	1,040,615	488,388	31.2	38	7.4
1970	195,271	148	779,275	521,135	N.A.	N.A.	N.A.

Residual

					Dollars per Bbl.		Average Indicated Margin
1983	54,290	—	587,650	62,500	$25.16	$28.05	$2.89
1982	66,200	758	618,675	65,871	26.55	29.08	2.53
1981	78,348	796	762,120	67,035	28.86	32.50	3.64
1980	90,344	920	915,420	98,034	23.14	26.09	2.95
1979	95,598	1,151	1,031,490	82,729	17.66	18.67	1.01
1978	90,194	1,355	1,103,395	164,536	11.51	12.75	1.24
1977	89,933	1,359	1,120,915	168,279	11.96	12.33	1.27
1976	72,344	1,413	1,022,365	178,139	10.72	11.49	.77
1975	74,126	1,223	885,490	154,103	N.A.	N.A.	N.A.
1970	53,944	1,528	804,460	185,831	N.A.	N.A.	N.A.

Sources: Mostly Department of Energy weekly, monthly and annual reports, and especially the Short Term Energy Forecast issued in July; American Petroleum Institute data book; and some reconciliation estimates by *NPN*.

Looking Ahead: What's in Store for Distillate And Residual

		First Quarter			Second Quarter			Third Quarter			Fourth Quarter		
	Closing Stocks Previous Year (Millions of bbl.)	Primary Stocks 3/31 (Millions of bbl.)	Product Supplied Avg. b/d	Retail Price Avg. per gal.	Primary Stocks 6/30 (Millions of bbl.)	Product Supplied Avg. b/d	Retail Price Avg. per gal.	Primary Stocks 9/30 (Millions of bbl.)	Product Supplied Avg. b/d	Retail Price Avg. per gal.	Primary Stocks 12/31 (Millions of bbl.)	Product Supplied Avg. b/d	Retail Price Avg. per gal.
Distillate													
Looking Ahead													
1984	170.2	120.3	3.4	$1.10	127.3	2.7	$1.12	—	—	—	—	—	—
1983	178.6	118.7	2.8	1.10	112.0	2.5	1.09	170.0	2.3	$1.08	170.2	3.2	$1.09
Looking Back													
1982	190.2	126.3	3.2	1.19	123.7	2.6	1.15	161.2	2.3	1.16	178.6	2.7	1.20
1981	205.1	164.3	3.5	1.21	179.9	2.4	1.23	207.3	2.4	1.20	191.5	3.0	1.21
1980	228.7	177.9	3.5	.94	196.5	2.4	.98	232.4	2.3	.98	201.1	3.1	1.02
1979	216.5	112.3	4.4	.56	141.4	2.9	.65	220.4	2.7	.78	228.7	3.4	.84
Residual													
Looking Ahead													
1984	54.3	55.0	2.0	—	55.2	1.8	—	—	—	—	—	—	—
1983	66.2	46.3	1.6	NA	48.6	1.4	—	55.3	1.6	—	54.3	1.7	—
Looking Back													
1982	78.3	58.1	2.1	NA	60.7	1.7	NA	61.8	1.5	NA	66.2	1.6	NA
1981	90.3	74.8	2.5	NA	69.4	1.9	NA	80.2	1.9	NA	78.0	2.0	NA
1980	95.6	88.3	3.0	NA	87.8	2.3	NA	87.9	2.3	NA	91.8	2.5	NA
1979	90.2	71.7	3.1	NA	79.8	2.5	NA	87.8	2.6	NA	95.6	2.8	NA

Sources: Mostly Department of Energy weekly, monthly, and annual reports, and especially the Short Term Energy Forecast issued in July; American Petroleum Institute data book; and some reconciliation estimates by *NPN*.

Heating Oil Marketing: A Different Game These Days

Bob Lynch, a veteran of the heating oil industry, says heating oil marketing is still a poker game of sorts, but the way it is being played now is significantly different from the past.

Lynch says it is time fuel oil marketers change their traditional approach to fall/winter stocks and become less dependent on their suppliers to take care of them.

Lynch currently is executive vice president of Empire State Petroleum Assn. A decade ago, before it was merged into the National Oil Jobbers Council, Lynch was the top executive of the old National Oil Fuel Institute, which was created in the early '60s to be the promotion and educational arm of fuel oil and repel the inroads of gas and electricity.

A one-time fuel oil marketer himself, he was, and still is, considered to be one of the industry's most knowledgeable experts in fuel oil's continuing battles with its utility competitors. He has some insights into the 1983-84 heating situation.

For many years, suppliers and buyers followed the annual ritual that developed around the highly seasonal nature of the heating oil business. From the refiner's point of view, the heating season generally ended around Feb. 1 because stocks would be sufficient for the March-April period and, at the same time, his attention had to be re-focused on the replenishment of gasoline inventories for the warm weather to come.

Refiners developed summer-fill programs to unburden themselves of excess fuel oil stocks. While marketers could hardly sell the stuff in the warm weather, they gladly cooperated because of a guaranteed price and deferred payment inducements.

This, says Lynch, set the stage for the poker game which ensued in September every year.

"Refiner suppliers would project a potential scarcity of fuel later in the year with attendant price increases to encourage marketers to take their liftings earlier," he says. "But marketers, with sufficient inventories to carry them through the first several months, were usually disdainful, gambling that a warm fall would force recission of the price increases."

President Carter's energy policy and spiraling interest rates and inflation made it increasingly impossible for most marketers to cope with high pre-season inventories. Too, refiners expanded their own storage facilities with the aim of realizing price appreciation, he says.

There has been a significant deviation in the past two years in the charting cycles the industry uses for inventories and projected demand.

Their underlying validity may be open to question because, for a period of several months, inventories fell below the so-called minimum operating levels, when runouts and shortages should have occurred—but didn't.

Since then, he notes, recent structural changes in demand patterns and logistic systems have altered the basic requirements for petroleum distribution, and projected needs may actually be overstated.

"As we prepare for the 1983-84 season, many suppliers will continue to key for a September start-up since retailers did not build up (summer) inventories of their own," says Lynch. "Marketers, on the other hand, know very well that consumer resistance to high oil prices is most easily expressed at the beginning and the end of the heating season.

"But marketers have another card in the poker game now—the hedging possibilities of the futures markets. So long as they don't let themselves get trapped in outright speculation, wherein they could lose their shirts, they can lock in supplies or prices down the road."

The net effect of all this, he says, is that the price impact, which used to be felt in September, is more likely now to be at the beginning of December.

Most data are compiled on an annual calendar basis, (i.e., from Jan. 1 through Dec. 31.) This often causes an unevenness in the totals because the highs and lows of the winter heating seasons, which start in one year and conclude in another, can affect the annualized totals materially.

This contrasts with the seasonal data of the heating oil industry which likes to use fall/winter/spring months as the basis of its calculations and comparisons. Technically, the heating season begins Sept. 1 and concludes May 30. But the number of degree days that are accumulated in September and May are generally on the low, low side, making these two months somewhat meaningless. Therefore, October through April are the months that count.

Another difficult aspect is that the hard data compiled by government and industry involves all uses of distillate and residual fuel oils. Where distillate is concerned, the annual statistics thus include diesel fuel for highway use, which already has a more significant share than heating oil, railroads, vessels, off-high diesel, etc., to cite a few. The same thing goes for diesel, where electric utilities consume more than space heating, and vessel bunkering also is high on the list of users [See related table page 67.]

As a rule of thumb, distillate for space heating represented about 33% of the total output in 1982 and is expected to run about the same in 1983. This is in sharp contrast to the 1977-78 period when the distillate percentage ran around 44%. Fuel oil's erosion, in fact, began in the 1977-78 period when the annual average of retail prices climbed from less than 50¢ gal. to more than $1.21 in 1981.

Residual fuel oil has been in a tailspin for several years. Total demand is down 48% since 1977 for all uses. Space heating usage is down even more drastically—roughly 62% in 1983 alone. Here again, it must be remembered that consumption declined as prices rose—almost tripling in the intervening years.

The Supply Outlook

Few energy experts and economists are willing to put themselves on record with a fuel oil forecast for the balance of 1983 and the first half of 1984.

The Department of Energy is now issuing short-term forecasts three or four times a year, however, and these give reasonably good pictures of the past, present and future. The only caveats, again, are that the data are on an *annual* basis and reflect *all* uses of distillate and resid, not just heating oils.

The July forecast said distillate consumption in 1983 would be about the same as in 1982, even though the first quarter of 1983 was depressed by the warm weather and a 10.4% shortfall in normal deliveries. Demand in the last half of 1983 and the first half of 1984 is expected to be up somewhat, more as a result of overall business stimulation than anything else. The forecast indicates consumption will run an average of 3.05-million b/d in the first half next year, an increase of 17% over the weather-depressed first half of this current calendar year.

Residual fuel oil consumption is expected to parallel that of distillate. In the doldrums for years and hurt by last winter's warmer weather, residual demand is expected to be stimulated by the economic recovery that's going on. In the first half of 1984, electric utility shipments are scheduled to increase 17% and non-utility consumption 20% over the comparable period of 1983.

Says the government about product availability: "While closing stocks were below the year-ago level, considerable re-

Regional Inventories: How They Rise and Fall During the Winter Heating Season

Because the populous New England and Middle Atlantic states account for most of the distillate and resid used for space heating during the winter months, it is only natural that their regional inventories are the highest in the land.

It must be remembered, however, that these stocks of fuel oil are for all uses—space heating, commercial, industrial, transportation and so on. As a rule of thumb, space heating accounts for about 35% of the fuel oil consumed in recent years—down considerably from the mid '70s when the ratio used to be around 45%.

Where distillate is concerned, on-highway diesel fuel is now taking a bigger cut of the total than that required for space heating.

	Distillate (millions of bbl.)			Residual (millions of bbl.)		
	Sept. 1	Jan.1	May 1	Sept. 1	Jan. 1	May 1
1983-84						
East Coast	74.5	77.1	44.6	26.0	28.0	26.0
Midwest	47.4	46.9	38.8	5.3	5.6	5.7
Gulf	34.7	31.8	28.6	14.1	12.8	13.8
Rocky Mountains	3.2	2.2	3.0	0.4	0.5	0.5
West Coast	10.2	12.2	10.1	7.7	7.2	9.1
Total U.S.	170.0	170.2	125.1	53.5	54.1	55.1
1982-83						
East Coast	63.9	80.6	31.8	23.1	34.7	20.3
Midwest	45.5	47.0	33.3	5.5	5.2	3.4
Gulf	35.6	34.2	26.0	15.5	16.3	13.4
Rocky Mountains	3.5	4.0	2.8	0.4	0.6	0.5
West Coast	10.2	12.7	9.4	8.4	9.3	9.0
Total U.S.	158.7	178.5	103.3	52.6	66.1	46.6
1981-82						
East Coast	86.3	87.4	35.0	34.4	40.0	23.4
Midwest	54.1	50.0	30.8	8.1	8.3	6.2
Gulf	44.5	35.5	28.5	21.2	18.7	13.5
Rocky Mountains	3.8	3.9	3.1	0.6	0.7	0.5
West Coast	11.4	14.7	10.5	10.7	10.2	10.0
Total U.S.	200.1	191.5	107.9	75.0	78.0	53.6
1980-81						
East Coast	104.1	90.3	64.4	43.6	45.4	36.5
Midwest	62.4	58.5	52.4	9.3	9.1	7.2
Gulf	42.9	39.8	34.7	21.0	23.8	19.1
Rocky Mountains	3.9	3.4	2.9	0.9	0.8	0.5
West Coast	13.0	13.1	10.3	12.0	12.6	9.7
Total U.S.	226.3	205.1	164.7	86.8	91.7	73.0
1979-80						
East Coast	89.9	106.0	71.4	46.3	50.3	43.8
Midwest	55.3	66.9	55.7	9.7	12.4	10.7
Gulf	34.8	40.3	33.5	19.6	20.1	17.3
Rocky Mountains	3.4	3.4	3.9	0.7	1.0	0.9
West Coast	11.9	12.1	12.8	11.1	11.9	12.5
Total U.S.	195.3	228.7	177.3	87.4	95.7	85.2

fining capacity remains available, should additional runs be necessary. Crude oil stocks, while below last year's levels, continue to be high relative to refinery runs. In addition, the continuing glut of crude oil implies ready availability of spot market purchases of both crude and product, if necessary."

The refiners did have their summer work cut out for them, however. In the first week of May, distillate inventories were down to 102.8-million bbl., the lowest level in many years. Resid stocks also were down to 46.2-million bbl.—another low, low level. Not much was added to the inventories in May or June. But in July, the uphill battle began in earnest to reach projected levels of 177.7-million bbl. for distillate and 55.27-million bbl. for resid by the end of this month.

In mid-July, distillate inventories topped 122.8-million bbl., and resid, 48.5-million bbl. Refiners thus had to put aside another 55-million bbl. of distillate and 7-million bbl. of resid to meet the projected inventory bench marks. Refineries, which had been running at around 70% of capacity in May, were up four percentage points in July and near to the highest level of recent years.

Prices May Range Materially

It is in the area of prices that the government experts hedge their projections.

They use three scenarios—low, high and base, with the latter being the average or so-called "realistic" forecast.

This is the way they see things for the third and fourth quarters of this year and the first and second quarters of 1984:

	1983		1984	
	3rd qtr.	4th qtr.	1st qtr.	2nd qtr.
No. 2 heating oil, wholesale				
(¢ per gal.)				
Low	77.8	74.6	75.3	75.5
Base	83.7	84.0	84.8	85.1
High	89.8	92.7	91.1	93.5
No. 2 heating oil, retail				
(¢ per gal.)				
Low	102.6	99.4	100.9	101.6
Base	108.4	109.2	111.3	112.1
High	110.6	113.5	117.8	120.9
No. 6, residual, (all sulfur average)				
($ per bbl.)				
Low	26.32	24.80	25.13	25.55
Base	28.40	28.04	25.40	28.82
High	29.20	29.51	30.60	31.74

The Energy Department seers stress that the price projections are based on a variety of factors. The base line, for example, assumes that the world and domestic price of crude oil will remain stable at its April 1983 level of $29.43 bbl. The low takes into consideration the possibility that international crude prices may decline to around $25 bbl., while the high anticipates that crude oil prices will increase at twice the rate of inflation in the U.S.

For those who play the futures markets, the base price line projections for No. 2 distillate, wholesale, were almost on the nose with the New York Mercantile Exchange's September bidding, but about 2.5¢ under the bidding for December deliveries. No projected prices were available from the exchange for the new year, either by month or quarter.

It should be noted too that weather conditions can play hob with both wholesale and retail prices for all fuels. The Energy Department forecast anticipates a normal winter will prevail from September through April. But each 10% increase or decrease in degree days can result in a plus or minus 150,000 b/d flow of product.

Cold weather always brings with it a firming of retail prices, then, a series of increases as transportation and delivery conditions become more difficult. And, rising demand simultaneously creates heavy pressure on available product inventories. Consumption rises with continued cold weather, forcing most marketers into 'round-the-clock deliveries of heating oils to residences, apartment complexes and commercial buildings.

Fatter margins go along with the higher prices.

Department of Energy studies and reports indicate that distillate margins have been rising steadily in recent years, but not increasing out of proportion to the retail price of the product itself. The studies show that the average distributor margin has been generally about 15% to 19% of the retail price. The average margin in 1982 was 20.2¢ gal., the government said. It suggested that the 1983 average will be 21.0¢.

No Letup in Competition

The fact that the gap between natural gas and No. 2 heating oil prices is closing significantly is not going to take the pressure off the necks of distillate jobbers and dealers.

"It just isn't in the cards," said one jobber representative.

"You can't explain away how the gas utilities have been taking our customers from us right through the years, and you can't explain away the fact that electric heat is still getting more than half of the new home market, despite its high cost and the repeated public protests about excessive bills in the winter."

A recent report from Gas Appliance

The New Home Market: Has Fuel Oil Rounded the Corner?

Fuel oil gained ground in the new home market in 1982 for the first time in years, according to the latest construction report from the Department of Commerce.

The increase wasn't much—only 1%. Nevertheless, it was the first time since 1976 that oil's percentage of the new home market hadn't slipped again.

Virtually all of the increase was scored in the Northeast, where New England Fuel Institute and the various state and local groups carry on a running battle with the gas and electric utilities for new homes.

	Total U.S. New Homes Completed (Add 000)	Gas		Electricity		Fuel Oil		Other	
		New Homes	% of Market	New Homes	% of Market	New Homes	% of Market	New Homes	% of Market
Nationally									
1982	632	252	40%	315	50%	17	3%	48	8%
1981	819	339	41	407	50	16	2	57	7
1980	957	394	41	482	50	29	3	52	5
1979	1,301	512	39	662	51	86	7	41	3
1978	1,368	511	37	710	52	109	8	40	3
Regionally									
1982									
Northeast	79	28	36%	27	34%	14	18%	10	12
North Central	92	53	57	24	26	3	3	13	14
South	340	112	33	214	63	(a)	(a)	13	4
West	121	59	49	50	41	(a)	(a)	12	10
1981									
Northeast	87	30	35%	34	39%	11	13%	12	14
North Central	140	87	62	37	26	(a)	(a)	13	10
South	408	120	31	262	64	(a)	(a)	16	4
West	183	94	51	74	41	(a)	(a)	15	8

(a) Sample sizes were either inadequate or insignificant.
Source: U.S. Department of Commerce, Construction Reports C25, July, 1983.

Manufacturers Assn. puts it all into perspective somewhat dramatically. During the first five months of this year, the report stated, manufacturers shipped more than 600,000 gas furnaces to consumers versus an almost pitiful 34,000 oil furnaces. The gas equipment manufacturers also shipped almost twice as many boilers as did the oil equipment manufacturers. Perhaps most telling of all, however, is the data on water heaters. Gas and electricity count their water heater shipments in the millions—more than 1.25-million by each in the first five months of 1983—while oil's total is in the thousands—roughly 15,000 during the same period. [See related story on page 71.]

There was a note of cheer for the fuel oil industry in a recent Department of Commerce report on new home construction, however, stating oil's share had gone up 1% in 1982—the first growth sign in six years. [See related story and chart on opposite page.] But the Commerce report still had its negative side. Fuel oil's share of the new home market on a national basis was only 3%, compared with electricity's 50% and natural gas' 40%. Coal, wood, kerosine and other fuels collectively made up the balance.

Not only does heating oil have to cope with gas and electricity, but it also is being challenged by alternative units and fuels, such as the heat pump, heavily ballyhooed by the utilities; by kerosine burners, wood furnaces and fireplaces, and coal. Consumers enthusiastically turned their attention to the alternatives in 1981 when the retail price of fuel oil broke the $1 gal. mark and headed on upward to the $1.30 to $1.35 range in some sections of the country. New Englanders particularly set records in the amount of wood they burned as supplemental heat to cut down their use of fuel oil.

Kerosine burner sales took off like a skyrocket, but ran into safety questions and controversy last year which dampened public appreciation of them. Millions of units were sold, however, and many oil companies now are marketing the special type of kerosine that is needed to insure safe burning.

In mid-summer, two reports gave the kerosine burners a blessing which should help their sales appeal this winter. Both the Consumer Product Safety Commission and the National Kerosine Heater Assn. said extensive studies had proved that the burners are safe. [See page 71.] The Consumer Product Safety Commission undertook its six-month, $1-million study after *Consumer Reports* had condemned the burners as unsafe.

The Commission report said the number of fires and deaths attributed to kerosine burners was no worse than that attributed to electric and gas heater fires, and much lower than that blamed on wood stove fires.

All of which means that kerosine is going to continue to cut into the volume of No. 2 that's used for space heating.

This encroachment could be significant. One industry executive mentioned some time ago that one gallon of kerosine could displace as much as three gallons of fuel oil in the home heating market. His was an idle comment, however, so it is not known how reliable is the ratio.

Optimistic Outlook

Mark Decker, a policy vice president of National Oil Jobbers Council who has been staff coordinator and resident fuel oil expert, is basically optimistic about the industry and its future.

"It all looks very promising for heating oil dealers," he says.

"The marketers who have survived the shake-out period following crude oil decontrol in 1981 are most likely to be around for a long time to come. The survivors are in a stronger position today than they have been in years."

As for the months ahead, he says NOJC does not anticipate any fuel oil supply problems this winter.

"Supplies are stable," says Decker, "and our decreased imports and increased utilization of products from friendly sources, such as Mexico and Great Britain, have significantly lessened both the threat and the potential impact of a supply disruption from the Middle East."

The challenge that's ahead?

"Clearly, the long-term health of the heating oil industry depends not only on maintaining its present customer base but in growth and expansion," he says. "Over the past decade, marketers have been forced into a defensive posture and have fought vigorously to retain customers in a shrinking fuel oil market. The time is here for marketers to take the offensive, seeking new markets for fuel oil, particularly the new home market.

"The general public, and especially the building and real estate professions, urgently need a thorough education on the value of heating oil systems for homes and fuel oil as a heating source. Our job is to help create that market, and I anticipate the fuel oil industry will take a much more aggressive role in the months ahead.

"The decade of the 1980s will provide a unique opportunity for fuel oil to regain some of its lost market and advance into new markets. I do not see a better time, through the year 2000, than the next 10 years for marketers to make these advancements."

The Latest Profile: How Fuel Oils Were Used in '82

Distillate	(Thousands of bbl.) 1982	1981	% Change	% of 1982	Total Sales 1981
Residential	180,760	197,400	−8.4%	18.5%	19.1%
Commercial	75,699	78,663	−3.8	7.8	7.6
Industrial	71,340	80,216	−11.1	7.3	7.8
Farm	68,453	69,665	−1.7	7.0	6.7
Subtotal	**396,252**	**425,944**	**−7.0**	**40.6**	**41.3**
Oil Company	29,482	29,185	+1.0	3.0	2.8
Electric Utility	12,134	18,192	−33.3	1.2	1.8
Railroad	93,150	100,482	−7.3	10.0	9.7
Vessel Bunkering	33,885	41,025	−17.4	3.5	4.0
On-Highway Diesel	338,006	340,002	−0.6	34.3	32.9
Military	15,201	17,763	−14.4	1.2	1.7
Off-Highway Diesel	37,118	38,851	−4.5	3.8	3.8
All Other	19,639	21,032	−6.6	2.0	2.0
Total U.S.	**974,864**	**1,032,476**	**−5.6%**		
Residual					
Commercial	65,781	67,035	−1.9%	10.5%	8.8%
Industrial	122,619	117,024	+4.8	19.6	15.4
Subtotal	**188,400**	**184,059**	**−2.4**	**30.1**	**24.2**
Oil Company	45,319	51,870	−12.6	7.2	6.8
Electric Utility	227,419	325,486	−30.1	36.3	42.7
Railroad	170	178	−4.5	—	—
Vessel Bunkering	152,586	188,632	−19.1	24.4	24.8
Military	7,829	7,008	+11.7	1.2	0.9
All Other	4,784	4,795	−0.2	0.8	0.6
Total U.S.	**626,510**	**762,030**	**−17.8%**		

Special Note: There is no heating category available anymore. However, DOE says in the case of distillates, the sum of the residential, commercial and farm categories roughly approximate the heating category of the past. In the case of residual, the sum of the commercial and industrial categories also are roughly equivalent to heating.
Source: Petroleum Supply Annual, Department of Energy, July, 1983.

conversions from natural gas back to oil.

Indeed, the American Gas Assn. estimates that gas utilities across the country have lost roughly 5% of industrial and other large accounts to fuel oil since 1982.

Such reports, along with inquiries Clauss has received concerning reconversion, have made him optimistic he soon may increase his yearly fuel oil gallonage and his 950 (mostly residential) accounts.

"We've already been contacted in the last three months by a local college, a hospital and two industrial plants," he says. "They're asking us whether we'd be in a position to supply them, should the price of natural gas go out of sight."

Setting an Example

Clauss also is a strong believer in energy efficiency and conservation. For example, in his garage he installed a low temperature thermostat on a "night setback" basis. He maintains night temperatures of 40 degrees—warm enough to allow for easy truck start-up, but cool enough to realize significant savings. He estimates that the $18 thermostat saved him about $500 in fuel costs over the past year.

Clauss tells his customers about similar saving methods to enhance the attractiveness of oil heat. In pointing to the "inevitability" of higher natural gas prices, he shows customers how fuel oil can become less expensive to use in the meantime. The importance of insulation is his main point.

"We've got customers that use 1,800 gal. a year on a two-flat, and they don't have insulation in the attic. They'll get a new car every four or five years, but won't *spend* the money to *save* money," says Clauss. "That's being grossly inefficient."

Deregulation and insulation aside, natural gas will always enjoy certain advantages over fuel oil, according to a long time industry observer.

"Fuel oil will always remain a dirty, smelly fuel," says this source. "Natural gas is clean, and of course, there is a disadvantage with fuel oil in that the consumer has to pay in advance," he says.

Although Clauss is aware of heating oil's image problem, he believes that with new equipment, obstacles at least can be partially overcome. For instance, Clauss recently had three of his four trucks repainted.

The implementation of new, dual-fuel furnaces (which convert back and forth between natural gas and fuel oil) could help make up for fuel oil's disadvantages. Clauss says that such equipment may signal an end to a 10-year Chicago tradition of oil burners not being installed in most new homes. It also may attract younger homeowners.

At present, the majority of Clauss' customers are senior citizens. Oftentimes they don't wish to convert to natural gas and are satisfied with oil's hotter flame which allows for residual heat to keep a home warm once the furnace shuts off.

Watches Costs and Credit

Clauss is confident of survival, despite the fact that heating oil sales are down $230,000 from last year and gallonage has decreased by 10%. The company is tightening up on credit to its customers appreciably. Overhead has been cut significantly, and Clauss says the company's profit picture looks better than last year.

Clauss is more concerned with the supply outlook for the coming winter. "We hear that industrial output was 75% of capacity in June," he says. "But so many refineries have been mothballed. That's alright in a recessionary period, but when the economy is coming back to life, there could be a shortage," says Clauss.

"I had occasion to hear John Swearingen (outgoing Standard of Indiana chairman) speak at a retirement luncheon in mid-July," he says. And, one of his offhand comments was that he saw a "definite resurgence in the fuel oil business because gas will continue to rise," says Clauss. "And God only knows, he should be in a position to see it."

The company has cut its fleet from seven to four and enters this season with lower stocks.

CLAUSS OIL
CLAUSS OIL
CLAUSS OIL

Fuel Oil Briefs

Fuel Oil Equipment Has Made Progress, But Totals Are Low

Shipments of oil furnaces, water heaters and boilers all showed plus signs in the first half of 1983. But compared with gas and electricity, they were almost minuscule in their totals.

Here's a bird's eye view, as provided by Gas Appliance Manufacturers Assn. and industry sources:

	5 mos. '83	5 mos. '82	% Change
Water Heaters			
Gas	1,378,848	1,352,844	+ 1.9%
Electricity	1,272,021	1,130,239	+12.5
Oil	14,800*	14,470	+ 2.3
**Estimated*			
Central Heating			
Gas Furnaces	608,100	564,300	+ 7.8
Oil Furnaces	33,900	28,700	+18.1
Gas Boilers	42,100	39,900	+ 5.5
Oil Boilers	23,972	19,444	+23.3

Safety Commission Says Kero Heaters 'Almost' Safe Enough

The long-awaited, $1-million report by the Consumer Product Safety Commission on kerosine heaters comes close to the same conclusions reached by an association of the manufacturers themselves. That is: the devices are fairly safe, but more ought to be done to make them safer.

The CSPC staff report—which awaited a vote of formal approval by the commission in early August—called for voluntary standards concerning fire and emissions hazards. The study came in the wake of a critical appraisal of kerosine heaters which appeared last fall in *Consumer Reports*—which moved Kero-Sun, Inc. to file (and subsequently drop) a multi-million-dollar lawsuit against the magazine [NPN—Jan. '83, p41].

The CPSC report specifically recommended: installation of emergency shut-off devices (which several heater makers already spec), addition of grills to prevent contact burns, adoption of testing methods to limit nitrogen dioxide emissions, and stricter standards for tip-overs. The study also recommends that commissioners promote standardized containers for 1-K grade kero and step up studies on sulfur content and storage tank integrity.

A report last February by the National Kerosene Heater Assn. had more or less proclaimed the heaters as safe.

Fuel Oil Briefs

Oil Equipment Market Could Stand More R&D

A detailed study by Frost & Sullivan, an international business researcher, suggests that fuel oil may be its own worst enemy during the next two decades in the fight for space-heating markets.

The study says that a downward sales spiral for residential oil-fired equipment lies ahead, "as a weak market fails to support research to make oil equipment more efficient." This, the findings state, widens the competitive disadvantage with natural gas and electricity and causes further sales declines.

The study states heat pumps will come on strong in the years ahead, with nearly 1.3 million units being purchased as central home heating units in the year 2000—almost one-half of the total residential market of 3.2-million retrofit and new units expected to be sold at that time.

It also states that at least two out of the 10 heat pumps will be gas-fired—"a piece of equipment that will appear in quantity before this decade ends."

The 1.3-million heat pumps may seem menacing to the fuel oil industry which is becoming more concerned with them almost hourly. But during an informal discussion, the author of the study said the heat pumps will be placed primarily in new construction in traditional markets—that is, the South and Midlands—rather than the so-called "winter heat" country to the north.

He said he does not see the heat pumps as replacements for conventional oil and gas furnaces or burners.

In looking down the road, however, the New York-based research firm was almost bleak in its forecast for the heating oil industry over the next 15 years or so.

It projected a market of 219,000 oil fired units in the year 2000, compared with 1,764,000 for gas and 1,117,000 for electricity.

Here's the fore-and-aft look that Frost & Sullivan compiled in its recent study, copies of which are available $1,150 each.

Market Forecast: Residential Central Heating Equipment

(000 units)

	1978	1980	1982	1985	1990	1995	2000
Natural gas	1,762	1,739	1,130	1,634	1,688	1,730	1,764
Fuel Oil	371	116	171	247	244	234	219
Central electric	978	767	619	979	1,094	1,141	1,117
Other Systems	8	12	10	20	30	40	53
Total:	3,119	2,634	1,930	2,880	3,056	3,145	3,153

O&E Briefs

Trading Network Hailed As Time, Cost Saver; System to Go National

For many of the more than 100 jobbers using it, a St. Paul, Minn.-based computer pricing service and trading network has been the best innovation since the telephone—a response the company hopes will soon propel its scope to nationwide coverage.

In fact, some jobbers say Computer Petroleum Company's four-year-old system has replaced the time-consuming phone calls they once needed to make to source competitively priced product.

CPC offers its 200 subscribers daily pricing surveys for 100 markets in 25 states. About 70% of these subscribers are jobbers, the remainder are majors and large independent refiners. Three trade analysts help negotiate transactions.

"It's like having 15 phones sticking in your ear at the same time," says Jerry Shepard of C.S.C. Oil Corp. in Louisville, Ky. Since using the trading network, C.S.C.'s wholesale business has increased by 30% to 40%. Shepard says he has been able to save up to 1½¢ gal. by using the system and that he recouped the $350/month service fee within a week after installation.

"It keeps you apprised of the market on a daily basis," says Jim Haslam II, of Pilot Oil Corp. in Knoxville, Tenn. "We pull from 16 different terminals in eight different states, and the system keeps us up to date with exact prices at those terminals every day and helps us keep up with what the Gulf Coast is doing."

For the monthly fee of about $350 and a one-time installment charge of about $120, subscribers obtain a terminal, a printer and a modum (device which connects a telephone to the system). Through this system, jobbers can:

—Review, buy, sell and exchange orders instantly. A trading screen shows buying and selling options of the network's subscribers.

—Scan spot market prices. CPC uses trading figures to update spot market prices in key trading areas.

—Trade confidentially. Only after a buyer and seller match bids on the trading screen are they introduced to one another in order to negotiate credit terms.

—Draw advice from trade analysts.

Subscribers also can call up rack prices for some 25 suppliers per market, check American Petroleum Institute weekly statistics and examine petroleum futures as well as other financial information.

The system's scope, however, is somewhat limited by the number of subscribers. A CPC spokesman says the company plans to expand nationwide within the next six months. The network currently covers PADs 1, 2 and 3.

But not all of its customers are completely satisfied. One jobber says he disagrees with the company's selection of a few of the suppliers that comprise some of the firm's daily price reports. He also says jobbers may be reluctant to give CPC actual contract prices, which may distort spot market statistics.

The jobber says, however, that he believes the network has the potential to become a valuable tool once the "bugs" are worked out.

CPC was started by a computer specialist and a Minnesota jobber in 1979 to address product shortages. In a supply glut, company officials say the service is aimed at allowing subscribers to stay on top of the market.

Kero-Sun Files Suit Against Heater Maker

Kero-Sun, Inc., which earlier dropped a multi-million dollar "efficiency" suit against *Consumer Reports*, is involved in a legal battle with its former Japanese burner supplier.

Kero-Sun, of Kent, Conn., is asking for $100-million from Toyotomi Kogyo Co. in an anti-trust suit that could see damages trebled to $300-million, if it wins.

The suit alleges that "Toyotomi conspired with former Kero-Sun employees to acquire marketing and trade secrets, that Toyotomi attempted to disrupt business relations with Kero-Sun distributors, and that Toyotomi attempted to circumvent its exclusive agreement to sell heaters in the U.S. only through Kero-Sun."

Kero-Sun said that it was advised in April that Toyotomi no longer would provide product and that the Japanese firm would soon be opening its own marketing affiliate in the U.S.

The Connecticut firm, whose pioneering sales spawned the new kerosine space heater market, however, said it had sufficient inventories on hand to take care of the 1983-84 season.

C 4680-1 10/10/83

October 1983 $4.00

Oil Heat Rally Sets Agenda for Success
Marketers Reeling as Tough Summer Ends
How Jax Kar Wash Cleans Up in Detroit

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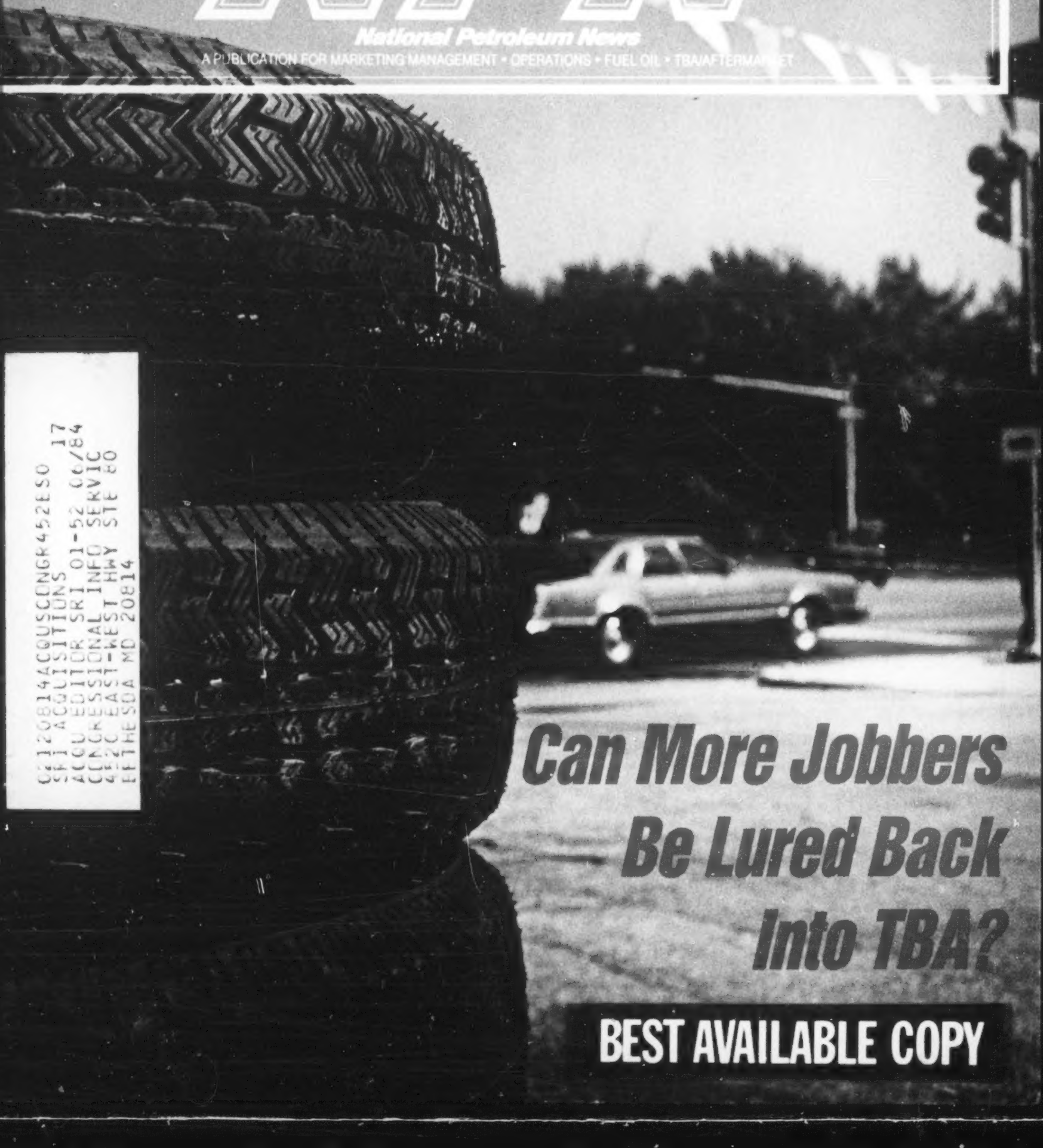

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Can More Jobbers Be Lured Back Into TBA?

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OCTOBER 1983 VOL. 75, NO. 10

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What many gasoline marketers are losing out on the pump islands could be made up in tires, batteries and accessories in the back room, some say. But first they need a niche, a program and the commitment. **Page 36**

Cover photography by Thomas Olson

EXTRA SERVICES

Can a $1-million carwash employing 25 people really turn a profit? It can when you put on the Ritz the way Detroit-area jobber Bruce Milen does. **Page 41**

Stifling street competition throughout the driving season curtailed what volume or margin gains many fledgling jobberships had been counting on. **Page 27**

• TRENDS

Georgia Gasoline Ruling Could Cause Big Ripples

Sometime this winter—perhaps not too long after the first of the year—Georgia's State Supreme Court can be expected to decide a tinderbox gasoline-marketing dispute that could have industrywide repercussions.

The issue is relatively clear cut: Can jobbers who own or operate retail stations take advantage of their lower wholesale costs to reduce their pump prices in competitive marketplaces? A Georgia law seems to say *no*.

Georgia retailers contend that the lower cost gives jobbers an unfair advantage, and they want it stopped.

In June, the retailers won an injunction against the jobbers in a test case that also involved Texaco as the prime supplier. The retailers had earlier successfully defended the law in a federal court case challenging its constitutionality [NPN— July '83, p22]. The case now in the hands of the State Supreme Court stems from an amendment to that law.

If the retailers win the latest go-around, it will be a landmark affair that will incite other states to seek similar legislation. Many are deeply interested in the Georgia fight and are only awaiting the outcome to proceed on their own.

Theoretically, this is only a three-way battle between Kenneth Reeves, a rural Texaco retailer; Batton-Jackson Oil Co., of Griffin, Ga., a Texaco jobbership that supplies Reeves and holds the lease on the station property; and Texaco itself.

The Georgia Assn. of Petroleum Retailers is supporting Reeves 100%. The state jobber group, Georgia Oilmen's Assn., is supporting Batton-Jackson. In the background—interested, but not a participant—is the National Oil Jobbers Council, which has been functioning as an information clearinghouse for its Georgia affiliate. Although no one will say so out loud, it can be assumed that all of the majors are keeping sharp eyes on developments, because the stakes are high and the implications are enormous.

The Georgia retailers are already looking ahead to 1984. They feel that if they can contain jobber competition via the current court case, then they can seek and probably get another amendment to the law next year that will ban all supplier-operated service stations in the state. They have yet another ace up their sleeve. Under the language of the law now being contested, any supplier that exchanges or buys product from another supplier will be classified as a distributor somewhat akin to a jobber/wholesaler. He'd be in the same soup, then, as a jobber/retailer.

Jack Houston, the retailers' executive director, insists that the association's goal is not to drive the jobbers out of retailing. "What we want," he says, "and what the law provides for are two price levels: one for jobber gasoline that is wholesaled to others, and one for the jobber gasoline that is sold at retail. This then makes him pay the same laid-in price that any other retailer would have to pay."

The law makes the supplier a part of the package.

The June injunction, in fact, seemed to be aimed more specifically at telling Texaco that it could not supply Batton-Jackson with any more gasoline until it is advised how much would be moved at wholesale and how much at retail, and that different base prices must be charged for each.

If the law is upheld, it eventually will make gasoline cops out of all of the suppliers. The law assigns to them equal vulnerability, so they will have to know, in sending gasoline to a jobber, what his end-use plans for it are. This will be true for all Georgia suppliers, including Amoco, Chevron, Citgo, Exxon, Phillips, Shell and Union.

The retailers know that they are going to have to be cops too. In fact, association president Charles Allen, a Gulf dealer in Atlanta, has asked his membership to advise the association office in confidence which jobbers are retailing as well as wholesaling. He said that each supplier will be put on record, and if street prices warrant investigation, complaints will be filed and both sides—jobber and supplier—will be subpoenaed for their records.

A retailer victory could have a traumatic effect in Georgia. During last summer's hearing, an industry spokesman conceded that about 75% of the state's 300 jobbers were "probably in violation of the law as it now stands."

The State Supreme Court decision might not be the final shot, however. Another appeal to the U.S. Supreme Court is a possibility for both sides. But the issues would necessarily have to be very limited because the constitutionality decision has already been rendered.

The Georgia court should be getting the case any day now. Oral arguments are permissible but are generally limited to about 15 minutes for each side. The heavy work is done in the briefs. Court experts assume that if the case is in the tribunal's hands by early October, a decision could come before or immediately after the holiday season.

—J. Richard Shaner

• MARKETPLACE AT A GLANCE

AVERAGE GASOLINE PRICES IN THE U.S. (¢ per gal.)

JULY	Gasoline (All types)	Leaded Regular	Unleaded Regular	Leaded Premium
U.S. City Avg.	$1.272	$1.207	$1.288	$1.446
Regions:				
Northeast	1.269	1.203	1.272	NA
North Central	1.276	1.227	1.299	NA
South	1.236	1.168	1.252	NA
West	1.310	1.230	1.334	1.451

Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

STOCKS (Add 000 bbl.)

	8/26/83	8/27/82
Gasoline (total)	225,612	225,097
Gasoline (unleaded*)	88,040	91,933
Kerosine **	31,637	33,968
Distillates	139,186	158,428
Residual	45,560	50,689

**Included in gasoline total.*

***Jet kero only; totals no longer kept by API and DOE.*

Source: American Petroleum Institute.

Fuel Oil Drops Last Year Hit 10-Year Low

Deliveries of distillate fuel oil dropped below the billion-bbl. mark in 1982 for the first time in more than a decade, an Energy Department report states.

Last year, total deliveries were 975-million bbl., down 5.6% from the preceding year's total of 1.0-billion bbl., according to DOE's annual report, "Deliveries of Fuel Oil and Kerosine." [See table for breakdown by category and by state.]

Deliveries for residential, commercial, industrial and transportation uses accounted for 81.3% of the distillate deliveries in 1982, compared with 81.1% in 1981. On-highway diesel fuel consumption declined by less than 1% in 1982.

Residential deliveries of distillates in 1982 slumped from 197-million bbl. to 181-million bbl., an erosion of 8%. The government no longer maintains a special category of heating oil deliveries, having changed its data collection format several years ago. However, an aggregate of the residential, commercial and farm deliveries in 1982 roughly approximates the heating oil category of the past.

On this basis, heating oil deliveries amounted to 325-million bbl. in 1982 versus 346-million bbl. in 1981, a reduction of 6%. One can assume that last winter's warmer weather had much to do with the 1982 decrease in consumption.

	Residential		Commercial		Industrial		Diesel On-Highway		All Uses Total (a)	
(Add 000 bbl.)	1982	1981	1982	1981	1982	1981	1982	1981	1982	1981
PAD District I										
New England States										
Connecticut	12,277	12,979	2,983	2,940	1,092	958	2,698	2,262	20,509	19,745
Maine	4,956	5,234	1,421	1,745	444	326	1,564	1,248	9,189	9,266
Massachusetts	18,139	18,747	5,525	5,773	1,569	1,526	4,745	4,419	32,263	32,155
New Hampshire	3,232	3,485	593	534	260	379	744	692	5,084	5,313
Rhode Island	2,473	2,573	434	382	194	208	679	590	3,984	3,993
Vermont	1,399	2,013	508	555	134	131	352	753	2,707	3,828
Central Atlantic States										
Delaware	897	1,031	415	634	96	161	921	862	2,753	3,133
District of Columbia	510	282	451	281	5	78	436	376	2,215	2,125
Maryland	6,184	6,805	1,775	1,572	1,206	1,486	4,023	4,730	16,198	18,365
New Jersey	19,349	23,217	7,051	7,680	6,387	7,635	8,093	7,460	45,546	50,973
New York	31,753	35,129	13,638	12,628	3,816	3,629	8,353	7,227	62,608	64,263
Pennsylvania	20,763	24,260	4,735	5,172	5,030	5,466	15,296	15,311	53,065	59,977
Lower Atlantic States										
Florida	726	985	652	2,578	1,341	1,937	13,098	12,968	22,503	29,816
Georgia	163	184	1,044	1,230	908	1,158	11,801	12,067	18,387	19,388
North Carolina	4,924	5,529	888	1,346	1,145	1,611	9,789	9,526	20,184	21,228
South Carolina	1,136	1,432	405	434	486	583	5,682	4,968	9,462	9,841
Virginia	5,050	5,585	1,467	1,399	1,228	1,570	8,286	9,038	21,943	23,638
West Virginia	866	894	303	712	1,567	1,734	2,381	2,833	7,659	9,450
Total	**134,797**	**150,364**	**44,308**	**47,595**	**26,908**	**30,578**	**98,941**	**97,330**	**356,254**	**386,497**
PAD District 2										
Illinois	2,675	2,624	3,139	4,070	2,854	2,186	13,744	15,037	32,521	34,427
Indiana	4,234	4,110	1,445	1,142	2,343	2,447	13,821	13,599	28,913	28,961
Iowa	2,116	2,016	649	624	603	613	6,525	6,334	16,212	14,374
Kansas	174	19	146	297	895	354	5,100	5,468	13,817	13,239
Kentucky	649	573	492	603	2,926	3,346	5,747	5,911	17,507	18,217
Michigan	6,331	7,913	2,137	2,373	1,456	1,564	8,181	8,230	22,819	26,657
Minnesota	6,224	4,829	991	837	819	1,086	6,341	5,957	20,880	18,714
Missouri	1,128	1,410	1,051	775	833	1,249	9,004	8,460	20,738	18,003
Nebraska	367	386	299	340	213	183	4,086	3,438	9,176	8,233
North Dakota	915	1,068	211	393	288	450	2,084	2,035	7,209	7,708
Ohio	4,501	5,710	2,110	2,603	3,561	5,221	17,092	16,663	40,250	44,959
Oklahoma	1	96	157	525	1,125	926	8,251	8,143	14,557	15,519
South Dakota	876	702	285	251	107	94	1,900	1,714	5,131	4,406
Tennessee	404	472	1,118	1,121	1,329	1,399	9,505	9,112	18,764	19,512
Wisconsin	7,587	7,508	1,282	1,155	656	916	7,072	7,230	20,537	20,726
Total	**36,182**	**39,436**	**15,512**	**17,109**	**20,008**	**22,034**	**118,453**	**117,331**	**289,033**	**293,655**
PAD District 3										
Alabama	55	17	238	998	1,686	1,746	6,758	6,782	15,436	17,939
Arkansas	14	20	139	176	488	628	5,512	5,458	13,336	13,116
Louisiana	84	0	348	518	3,512	3,595	7,510	10,031	30,858	37,964
Mississippi	0	2	114	138	663	1,964	5,257	5,298	11,849	13,487
New Mexico	24	18	560	683	617	886	3,512	5,848	7,954	12,526
Texas	29	7	4,894	3,749	4,128	4,841	32,692	31,564	90,180	90,359
Total	**206**	**64**	**6,293**	**6,262**	**11,094**	**13,660**	**61,241**	**64,981**	**169,613**	**185,391**
PAD District 4										
Total	**843**	**851**	**1,540**	**1,146**	**3,692**	**4,706**	**13,205**	**12,204**	**36,884**	**39,462**
PAD District 5										
Alaska	1,128	912	482	533	726	722	596	1,067	6,335	6,548
Arizona	0	1	23	60	1,050	1,679	4,581	5,323	8,102	9,741
California	72	72	4,410	3,742	4,794	3,898	27,679	28,423	67,337	67,494
Hawaii	0	1	55	178	83	107	415	423	4,570	6,043
Nevada	158	151	77	333	234	283	1,977	1,813	3,518	3,488
Oregon	2,117	2,[illegible]41	1,003	959	1,399	1,466	5,339	5,651	15,020	16,462
Washington	3,257	3,007	1,996	746	1,352	1,085	5,579	5,456	18,200	17,695
Total	**6,732**	**6,685**	**8,046**	**6,551**	**9,638**	**9,240**	**46,166**	**48,156**	**123,081**	**127,470**
U.S. Total	**180,760**	**197,400**	**75,699**	**78,663**	**71,340**	**80,216**	**338,006**	**340,002**	**974,864**	**1,032,476**

(a) All uses also include deliveries to oil companies, electric utilities, farms, military, railroads, vessel bunkering, off-highway diesel, and miscellaneous.
Source: Deliveries of Fuel Oil and Kerosine in 1982, Petroleum Supply Annual, Department of Energy, June, 1983.